



888 Woodstock Rd Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

August 28, 2014

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

1st half 2014
Enclosed is the second-half 2013 semi-annual report for 3V inc. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

Scott McNair
Plant Manager



888 Woodstock Rd Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

August 28, 2014

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

1st Jc. 2014
Enclosed is the second-half 2013 semi-annual report for 3V inc. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair', is written over a horizontal line.

Scott McNair
Plant Manager

SUBPART FFFF (MON) COMPLIANCE REPORT

Semiannual Report

for

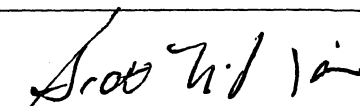
3V, Inc.

Covering
Jan 1, 2014
through
June 30, 2014

Submitted on August 28, 2014

MON Compliance Report

63.2520 (e) (1) Company Name and Address	
Company Name	3V, Inc.
Street Address	888 Woodstock Road
City, State Zip Code	Georgetown, SC 29440
Mailing Address:	888 Woodstock Road
City, State Zip Code	Georgetown, SC 29440
Contact Person	Vince Centioni
Title	Environmental Manager
Telephone	843.520.0128
Fax	843.546.0007

63.2520 (e) (2) Certification of Truth, Accuracy, and Completeness	
Last Name	McNair
First Name	Scott
Title	Plant Manager
Telephone	843-520-0146
Fax	843-546-0007
I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.	
Name (signed)	
Name (printed)	Scott McNair
Date	08/28/2014

63.2520 (e) (3) Date of Report; Reporting Period	
Date Report Submitted:	August 28, 2014
Start of Reporting Period:	January 1, 2014
End of Reporting Period:	June 30, 2014

TABLE OF CONTENTS

1. INTRODUCTION
2. MON COMPLIANCE REPORT RESPONSES
3. ATTACHMENTS
 - A. Excess Emission Events from Start Up, Shutdowns or Malfunctions
 - B. Information On Deviations For Systems Without CMS
 - C. Information On Deviations On Systems With CMS
 - D. Copies of Operating Logs of Sources Using CMS for Compliance (68H002 Thermal Oxidizer).
 - E. Operating Scenarios
 - F. Report for Subpart UU (LDAR Summary).

1. INTRODUCTION

3V Inc. is subject to the Miscellaneous Organic NESHAP 40 CFR Part 63 Subpart FFFF for organic chemical manufacturing processes in unit ID's 04, 05, 06 and 07. The facility is also subject to the Pharmaceutical MACT 40 CFR Part 63 Subpart GGG in unit ID 04. The purpose of this notification is to document the facility's compliance status with Subpart FFFF.

This report has been formatted by following the periodic report section of Subpart FFFF located in 63.2520 (e). Specific CFR citations are listed in their order with a response to each. In some cases it was convenient to prepare the information requested in a separate report. In these cases that report is provided as an attachment.

2. MON COMPLIANCE REPORT RESPONSES

63.2520 (e) (4) *Records showing that for each SSM during which excess emissions occurred, procedures specified in the SSMP were followed. Documentation of actions taken that were not consistent with SSMP. Brief description of each malfunction.*

Provided in Attachment A is a list SSM events that may have resulted in excess emissions. This list comprises all events involving a malfunction or shutdown of control devices. The facility SSM Plan requires operators to reduce production activity to minimize emissions during control device service interruption until the unit can be restarted or back-up systems can be put in place.

Note: Documented in the General Services SSM log there was a "scheduled planned shutdown" for controlled monitoring device 01CE01 & 01CE02 from 12/23/2013 – 01/03/2014. All venting and production activity was simultaneously shutdown for the complete duration of this scheduled event.

63.2520 (e) (5) (i) *Statement indicating there were no deviations from any emission limit, operating limit, or work standard during the reporting period.*

Not Applicable.

63.2520 (e) (5) (ii) *For each deviation from an emission limit, operating limit, and work standard that occurred at an affected source where CMS is NOT used to comply with same provide the following....*

63.2520 (e) (5) (ii) (A) *Total operating time of the affected source during the reporting period,*

Total operating time during reporting period was 4344 hours.

63.2520 (e) (5) (ii) (B) *Information on number, duration, and cause of deviations, and corrective action taken for deviations including periods of SSM.*

No deviations from systems where CMS is NOT used to comply with regulations.

63.2520 (e) (5) (ii) (C) Copies of operating logs of processes with batch vents from batch operations on day(s) during which deviation occurred for those deviations from emission limits, operating limits, and work standards, occurring at an affected source where CMS is NOT used to comply with same. Include periods of SSM.

Not applicable.

63.2520 (e) (5) (iii) For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, include the following information:

63.2520 (e) (5) (iii) (A) Dates and times that each CMS was inoperative for sources where CMS is used to comply with emission limits and operating limits.

See Attachment B for CMS downtime details.

63.2520 (e) (5) (iii) (B) Date, time, and duration that each CMS was out-of-control.

No periods of CMS out-of-control during this reporting period.

63.2520 (e) (5) (iii) (C) Date and time that each deviation started and stopped, and information on whether the deviation occurred during SSM, for deviations at sources where CMS is used to comply with emission limits and operating limits.

See Attachment C.

63.2520 (e) (5) (iii) (D) Summary of the total duration of deviations occurring during the reporting period, and total duration as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.

There have been no deviations from the temperature limits listed in Table 63.2520 (e) (5) (iii) (I) below from the cryogenic condensers. The thermal oxidizer temperature was below the limit in Table 63.2520 (e) (5) a total of 2.2 hrs or 0.05% of the total operating time.

63.2520 (e) (5) (iii) (E) Breakdown of total duration of deviations into startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes for deviations at sources where CMS is used to comply with emission limits and operating limits.

See table that follows.

Table 63.2520 (e) (5) (iii) (E) Breakdown of Total Duration of Deviations into Various Categories for 68H002.					
Startup	Shutdown	Control Equipment Problems	Process Problems	Other Known Causes	Other Unknown Causes
0	0	2.2	0	0	0

63.2520 (e) (5) (iii) (F) *Summary of total duration of CMS downtime during reporting period, and as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (F)				
Summary of Total Duration of CMS Downtime.				
Device	Monitor	Parameter	Duration of downtime [hours]	Percentage of downtime [%]
01CE01 & 01CE02	TI-26 & TI-27	Temperature	0.0	0.0
68H002	68TT300_3	Temperature	59.1	1.36

63.2520 (e) (5) (iii) (G) *Identification of each HAP known to be in the emission stream from each source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (G) HAP's in Emission Streams.	
Device ID using CMS	List of Known HAP's in Emission Stream
68H002	Acetaldehyde, Acrylamide, Acrylonitrile, Ethyl acrylate, Methanol, Vinyl Acetate, Xylene
01CE01 & 01CE02	Methylene Chloride

63.2520 (e) (5) (iii) (H) *Brief description of process units.*

The facility consists of batch chemical manufacturing process units, wastewater treatment units, storage tanks, and air pollution control equipment for the reduction of organic HAP's including: two thermal oxidizer units (68H001 and 68H002) and a cryogenic condenser system, 01CE01, 01CE02. All batch process vents containing methylene chloride are routed to the cryogenic condenser. For the process vents, the cryogenic condenser has been determined to be a process condenser and the vents are collectively Group 2. For storage tanks the cryogenic condenser has been determined to be a control device. There are no continuous process sources.

The affected source includes the MCPU's listed in the table that follows.

Table 63. 2520 (e) (5) (iii) (H) Chemical Manufacturing Processes Operating during the reporting period.	
MCPU	Chemical Manufacturing Processes
04 – Alpha/Beta/Epsilon Plant	Extrapin, Luxus 5, Tabanol 1, Tabanol NA, Tabanol G, and Tabanol P.
05 – Gamma Plant	Tabanol 5
06 – Delta 1 Plant	Efram CR, Tabanol 1 and Tabanol 2
07 – Delta 2 Plant	Tabanol 5

63.2520 (e) (5) (iii) (I) Brief description of CMS.

There were three control devices used by the facility for compliance with Subpart FFFF during the reporting period. These include flare 68H001, thermal oxidizer 68H002 and the cryogenic condensation system 01CE01 and 01CE02. Flare 68H001 serves as a back up to the thermal oxidizer for downtime due to malfunctions and routine scheduled maintenance. The table that follows lists the continuous monitoring for each device.

Table 63.2520 (e) (5) (iii) (I) Parametric Monitoring Required for Control Devices.				
Device	Parameter	Basis for Parameter	Limit	Basis for Limit
68H001	Combustion Temperature	63.988(c)(1)	1464 °F	Average temperature from test
68H002	Combustion Temperature	63.988(c)(1)	1476 °F	Average temperature from test
01CE01	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation
01CE02	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation

63.2520 (e) (5) (iii) (J) *Date of latest CMS certification or audit.*

See table that follows.

Table 63.2520 (e) (5) (iii) (J) CMS Certification/Audit Dates.		
Device ID	Monitoring Equipment	Date of Latest CMS Certification/Audit
68H002 Thermal Oxidizer	68TT300-3	Calibrated 07/07/2013
68H001 Ground Flare	68TT6001	Calibrated 07/25/2014
01CE01 Cryogenic Condenser	01TI 26	Calibrated 07/17/2014
01CE02 Cryogenic Condenser	01TI 27	Calibrated 07/17/2014

63.2520 (e) (5) (iii) (K) *Operating logs of processes with vents from batch processes for each day of a deviation where CMS is used to comply with deviations from emission limits and operating limits.*

See Attachment D.

63.2520 (e) (5) (iii) (L) *Operating day average values of monitored parameters for each day during which there was a deviation for sources where CMS is used to comply with emission limits and operating limits.*

Not applicable.

Table 63.2520 (e) (5) (iii) (L) Operating Day Average Values for Each Exceedance Date.			
Date	Device	Monitor	Average, °F
3/31/2014	68H002	68TT300-3	1353

Note:

See operator logs. Control equipment problems were the root cause the exceedance.

63.2520 (e) (5) (iv) *Records associated with each calculation required by 63.2525 (e) that exceeds an applicable HAP usage or emissions threshold.*

Emission calculations used to designate Group 2 process vents in the NOCS. No Group 2 process vents relying on HAP usage demonstration.

63.2520 (e) (6) *Statement indicating no periods of out-of-control CEMS.*

Not applicable. Facility does not use CEMS for compliance with Subpart FFFF.

63.2520 (e) (7) *New operating scenarios not already submitted.*

See Attachment E for new operating scenarios since last periodic report. Emissions from this source were included in the construction permit application for the installation of the cryogenic condensation system (CP-FJ).

63.2520 (e) (8) *Records of process units added to a PUG; records of primary product re-determinations.*

Not applicable.

63.2520 (e) (9) *Records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part, and subpart F of 40 CFR 65.*

Information requested in Subpart SS is provided in sections 63.2520 (e)(5)(iii) of this report. See Attachment F for Subpart UU report.

63.2520 (e) (10) *Process changes.*

No process changes to include in this report.

ATTACHMENT A**Excess Emission Events from Start Up, Shutdowns or Malfunctions**

Fail Date	Fail Time	Duration Hours	Unit	SSMP Followed?	Cause – Corrective Action
3/9/2014	22:15	0.6	68H002	Yes	High temp. broken air line on valve. Replaced air fitting & tubing. Reset restarted.
3/9/2014	23:50	0.2	68H002	Yes	High temp. Reset restarted.
3/28/2014	07:27	0.2	68H002	Yes	High temp. Reset restarted.
3/30/2014	2330	3.0	68H002	Yes	High level in #2 catch pot. Drained liquid.
3/31/2014	10:30	1.7	68H002	Yes	Shut down manually to reset PLC. Reset restarted.
4/4/2014	13:20	0.3	68H002	Yes	High temp. Reset restarted.
4/4/2014	14:33	0.6	68H002	Yes	High temp. Reset restarted.
4/4/2014	21:30	0.5	68H002	Yes	High temp & VFD fault. Reset both restarted.
4/8/2014	0625	0.30	68H002	Yes	High temp. Reset restarted.
4/12/2014	05:20	1.40	68H002	Yes	Power surge. Reset restarted.
4/25/2014	16:00	0.25	68H002	Yes	High temp. broken air line on valve. Replaced air fitting & tubing. Reset restarted.
5/1/2014	01:55	0.20	68H002	Yes	High temp. Reset restarted.
5/8/2014	13:30	0.10	68H002	Yes	High temp. Reset restarted.
5/12/2014	06:40	0.20	68H002	Yes	High temp. Reset restarted.
5/16/2014	14:50	0.20	68H002	Yes	High temp. Reset restarted.
5/21/2014	11:20	0.10	68H002	Yes	High temp. Reset restarted.
5/21/2014	14:40	0.80	68H002	Yes	High temp. Reset restarted.
5/21/2014	19:00	0.10	68H002	Yes	High temp. Reset restarted. Started ground flare.
5/23/2014	04:30	0.50	68H002	Yes	High temp. Reset restarted. Started ground flare.
5/27/2014	23:00	0.40	68H002	Yes	High temp & VFD fault. Reset both restarted.
5/28/2014	22:30	0.20	68H002	Yes	High temp. Reset restarted.
5/29/2014	00:20	0.10	68H002	Yes	High temp. Reset restarted.
5/29/2014	18:50	0.25	68H002	Yes	High temp. Reset restarted.
5/29/2014	19:35	0.20	68H002	Yes	High temp. Reset restarted.
5/29/2014	21:30	0.20	68H002	Yes	High temp. Reset restarted.
5/29/2014	22:00	0.30	68H002	Yes	High temp. Reset restarted. Started ground flare.
6/4/2014	09:40	0.20	68H002	Yes	High temp. Reset restarted. Started ground flare.
6/4/2014	19:10	0.20	68H002	Yes	High temp. Reset restarted. Ground flare online
6/6/2014	13:30	0.30	68H002	Yes	High temp. Reset restarted. Ground flare online

6/7/2014	8:45	0.50	68H002	Yes	Flame failure. Restarted. Ground flare online
6/9/2014	21:15	0.60	68H002	Yes	High DP flame arrestor. Reset restarted VFD not running. Flare online.
6/16/2014	20:20	0.20	68H002	Yes	High temp. Reset restarted. Flare online
6/17/2014	21:52	0.30	68H002	Yes	High temp. Reset restarted. Flare online
01CE01 & 01CE02					
1/7/2014	1730	3.5	Polaris	Yes	Line froze to LT for V-02. Thawed out lines w/steam. Started back up.
1/30/2014	0130	0.7	Polaris	Yes	LT-18 @ 100%, high level. Thawed pump. Restarted.
2/2/2014	0200	0.5	Polaris	Yes	LT-18 @ 100%, high level. Thawed line to LT. Restarted.
2/7/2014	2000	0.75	Polaris	Yes	XV-04A fault. Reset & restarted.
2/8/2014	1945	0.5	Polaris	Yes	XV-04A fault. Reset & restarted.
2/11/2014	0857	4.25	Polaris	Yes	XV-04A fault. Replaced the positioner on XV-04A. Reset & restarted.
2/13/2014	1700	5.2	Polaris	Yes	XV-04A fault. E&I replaced valve. Reset & restarted.
2/14/2014	1230	5.0	Polaris	Yes	Liquid backed up in the system. Drained and started and stopped as needed.
2/17/2014	1015	0.5	Polaris	Yes	No flow. High delta p column 2. Restarted.
2/28/2014	0300	0.3	Polaris	Yes	Liquid in blower. Shut off unit. Drained the liquid and started back up.
3/16/2014	0745	3.25	Polaris	Yes	XV-04A fault. Called E&I. Valve wouldn't reset. Problem with accuator. Fixed PER E&I
3/16/2014	1700	0.5	Polaris	Yes	XV-05A valve malfunction. Reset restarted.
6/29/2014	1740	1.3	Polaris	Yes	Low air pressure (XV-04A). Valve malfunction due to low flow. Restarted.
6/30/2014	0828	1.00	Polaris	Yes	XV-04A valve malfunction. E&I restarted.
6/30/2014	0945	1.00	Polaris	Yes	XV-04A valve malfunction. E&I restarted.
6/30/2014	1515	1.50	Polaris	Yes	XV-04A valve malfunction. E&I replaced valve indicator.

Notes: Omitted from the list are a number of minor events involving the cryogenic condenser (duration < 0.5 hr) that did not effect emissions. The system is passive and contains a large reserve of refrigeration capacity. Even when the unit shuts down vent gases continue to pass through the system at temperatures well below the limit.

ATTACHMENT B**Detailed Information On CMS Downtime**

Control Device	Monitor ID	Date	Time	Duration, hrs
68H002	68TT300_3	2/26/2014	11:37	1.4
68H002	68TT300_3	3/9/2014	13:54	1.4
68H002	68TT300_3	3/12/2014	10:27	1.3
68H002	68TT300_3	3/30/2014	16:14	3.8
68H002	68TT300_3	4/8/2014	14:38	9.4
68H002	68TT300_3	4/9/2014	00:00	24.0
68H002	68TT300_3	4/10/2014	00:00	16.0
68H002	68TT300_3	4/17/2014	19:57	1.8

Note:

All CMS downtime events for the thermal oxidizer (68H002) were due to communication loss from RS view screen to the data log server. From 04/08/2014 - 04/10/2014 process engineering moved data logging onto a different server network drive. During this transition the data logs were not being recorded PER normal operation due to a temporary RS view communication shutdown to the data log server. The control device stayed above temperature limits. Local temperature readings were observed by General Services.

ATTACHMENT C**Information On Deviations On Systems With CMS**

Table 63.2520 (e) (5) (iii) (C) Thermal Oxidizer 68H002 Start/End Date and Times of Temperature Deviations.					
Date of Deviation	Deviation Start Time	Deviation End Time	Duration, hrs	Cause	SSM?
3/31/2014	00:03	02:07	2.2	Control equipment problems	Yes

Table 63.2520 (e) (5) (iii) (C) 01CE01 & 01CE02 Cryogenic Condenser Start/End Date and Times of Temperature Deviations.					
Date of Deviation	Deviation Start Time	Deviation End Time	Duration	Cause	SSM?
No deviations from the temperature limit specified in Table 63.2520 (e) (5) (iii) (I)					

Copies of Operating Logs of Sources Using CMS for Compliance

ATTACHMENT D

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20						page	of
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
DRL	12/11/2013	08:45	12/11/2013	09:40			
CAUSE OF FAILURE					CORRECTIVE ACTION		
LINES FROZE TO WHI TRANSMITTER FOR V-02					THAWED OUT LINES WITH STEAM & PUT CRYO BACK ON LINE		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CH	12/13/2013	11:11 am	12/13/2013	12:30 PM			
CAUSE OF FAILURE					CORRECTIVE ACTION		
FLUID IN BLOWER					DRAINED PROB 60 gal FLUID FROM BLOWER		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CH	12/23/2013	14:00 HRS	01/03/2014	14:00 HRS			
CAUSE OF FAILURE					CORRECTIVE ACTION		
SCHEDULED SHUT DOWN					SCHEDULED SHUT DOWN & START UP		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
RC	01/07/14	15:30	01/07/14	16:00			
CAUSE OF FAILURE					CORRECTIVE ACTION		
FROZE LINE BLOWER FLOW METER					RESTARTED		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
RC	01/07/14	17:30	01/07/14	21:30			
CAUSE OF FAILURE					CORRECTIVE ACTION		
UNIT FROZE V-01 TANK NOT PUMPING OUT					THAWED SYSTEM		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
DRL	01/21/2014	22:20	01/21/2014	10:27			
CAUSE OF FAILURE					CORRECTIVE ACTION		
BLOWER STOPPED					CHECKED BLOWER FOR FLUID CLEAR RESTARTED AFTER 5 min		

Must respond to alarms within 15 minutes. Must document that plants were notified to stop venting to Polaris. Plants must stop venting if they can do so safely. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm

FLARE / THERMAL OXIDIZER FAILURE LOG SHEET for 20						page		of	
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified TOX Down?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
DRC	03/28/2014	07:27	03/29/2014	09:37					
CAUSE OF FAILURE					CORRECTIVE ACTION				
High Comb Temp					Reset & Restarted				
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified TOX Down?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
Q	03/30/2014	2330	03/31/2014	0230					
CAUSE OF FAILURE					CORRECTIVE ACTION				
High Level in #2 Catch-pot Liquid from Alpha Beta					Drained the liquid from #2 catch pot and sent the Delta catch pot liquid to V-569 (6x3)				
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified TOX Down?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
DRC	03/31/2014	10:30	03/31/2015	12:10					
CAUSE OF FAILURE					CORRECTIVE ACTION				
Shut Down MANUALLY TO Reset PLC					Reset & Restarted				
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified TOX Down?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CH	4/4/14	13:30 13:30 13:30	4/4/14	13:40					
CAUSE OF FAILURE					CORRECTIVE ACTION				
Reset Restarted High Comb Temp					Reset Restarted				
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified TOX Down?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CH	4/4/14	14:33	4/4/14	1500					
CAUSE OF FAILURE					CORRECTIVE ACTION				
High Comb Temp					Reset Restarted				
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified TOX Down?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
RC	4/4/14	21:30	4/4/14	22:00					
CAUSE OF FAILURE					CORRECTIVE ACTION				
High Temp & VFD Fault					Reset Both				

Must respond to alarms within 15 minutes. Must document that plants were notified to stop venting to TOX. Plants must stop venting if they can do so safely. Must document TOX / Flare malfunction dates, times, causes, and corrective actions.

FLARE / THERMAL OXIDIZER FAILURE LOG SHEET for 20 page of

TECH <i>DRC</i>	FAIL DATE <i>04/08/2014</i>	FAIL TIME <i>06:25</i>	RESTART DATE <i>04/08/2014</i>	RESTART TIME <i>06:42</i>	Plants Notified TOX Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>High Temp</i>					CORRECTIVE ACTION <i>Reset & Restarted</i>	
TECH <i>DRC</i>	FAIL DATE <i>04/12/2014</i>	FAIL TIME <i>05:20</i>	RESTART DATE <i>04/12/2014</i>	RESTART TIME <i>05:45</i>	Plants Notified TOX Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>Process Surge</i>					CORRECTIVE ACTION <i>Reset & Restarted</i>	
TECH <i>DRC</i>	FAIL DATE <i>04/25/2014</i>	FAIL TIME <i>16:00</i>	RESTART DATE <i>04/25/2014</i>	RESTART TIME <i>16:15</i>	Plants Notified TOX Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>Broken 1/4" Air Line on Auto Valve</i>					CORRECTIVE ACTION <i>Replaced Air Fitting</i>	
TECH <i>QB</i>	FAIL DATE <i>05/01/2014</i>	FAIL TIME <i>0155</i>	RESTART DATE <i>05/01/2014</i>	RESTART TIME <i>0205</i>	Plants Notified TOX Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>high combustion temp.</i>					CORRECTIVE ACTION <i>Acknowledged alarms and restarted</i>	
TECH <i>CTB</i>	FAIL DATE <i>05/08/2014</i>	FAIL TIME <i>13:30</i>	RESTART DATE <i>5/08/2014</i>	RESTART TIME <i>13:35</i>	Plants Notified TOX Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>high combustion temp.</i>					CORRECTIVE ACTION <i>Acknowledged alarms and restarted</i>	
TECH <i>QB</i>	FAIL DATE <i>05/08/2014</i>	FAIL TIME <i>1640</i>	RESTART DATE <i>05/08/2014</i>	RESTART TIME <i>1645</i>	Plants Notified TOX Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>high Combustion temp.</i>					CORRECTIVE ACTION <i>Acknowledged alarms and started up.</i>	

Must respond to alarms within 15 minutes. Must document that plants were notified to stop venting to TOX. Plants must stop venting if they can do so safely.
Must document TOX / Flare malfunction dates, times, causes, and corrective actions.

TOX INSPECTION SHEET														
Gensv Initials	Valve Position			Pressures				Comb. Air % FCV 300-1	Cond. Pot @ DI DIke (Inch)	Flame Arrestor Inlet TE-100-1	Flare Stack Temp (F)	FT-6022 Process flow scfm	O2 %	
	To TOX FCV 100-1B	To Vent HV 601-OA	To Ground Flare HV-6022	filter sock Differential (In. W.C.)	Flame Arrestor Differential (In.W.C.)	Dilution Air % FCV 400-1	VFD% Speed DPAL 100-1							
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.	1475-1900	0-700	0-21%	
1 st <i>DL</i>	<i>O</i>	<i>C</i>	<i>C</i>	<i>-2.0</i>	<i>12</i>	<i>10</i>	<i>58</i>	<i>40</i>	<i>81</i>	<i>52</i>	<i>1589</i>	<i>132</i>	<i>25.0</i>	
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
2 nd —														
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
3 rd —														
<p>Correct Any Abnormal Condition. Report Corrective Action Under Notes And in Log Book.</p> <p>Notes: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>														

3V INC

Date 3-31-14

TOX INSPECTION SHEET														
Gensv Initials	Valve Position			Pressures						Flame Arrestor Inlet TE-100-1	Flare Stack Temp (F)	FT-6022 Process flow scfm	O2 %	
	To TOX FCV 100-1B	To Vent HV 601-OA	To Ground Flare HV-6022	filter sock Differential (in. W.C.)	Flame Arrestor Differential (in.W.C.)	Dilution Air % FCV 400-1	VFD% Speed DPAL 100-1	Comb. Air % FCV 300-1	Cond. Pot @ DI DIke (Inch)					
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.	1475-1900	0-700	0-21%	
1st <i>Me</i>	O	C	C	-5.0	20.0	10	(14.9)	49	OK	37	1541	(301) ³	25.0	
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
2 nd —														
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
3 rd —														
<p>Correct Any Abnormal Condition. Report Corrective Action Under Notes And in Log Book.</p> <p>Notes: <i>AFTER POWER FA. Inx</i> <i>SUNDAY TOX NOT Reading Right</i></p>														

mlee

Page 1

7/7/2008

3V INC

Date 4-8-14

TOX INSPECTION SHEET														
Gensv Initials	Valve Position			Pressures				Comb. Air % FCV 300-1	Cond. Pot @ DI Dike (Inch)	Flame Arrestor Inlet TE-100-1	Flare Stack Temp (F)	FT-6022 Process flow scfm	O2 %	
	To TOX FCV 100-1B	To Vent HV 601-OA	To Ground Flare HV-6022	filter sock Differential (in. W.C.)	Flame Arrestor Differential (in.W.C.)	Dilution Air % FCV 400-1	VFD% Speed DPAL 100-1							
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.	1475-1900	0-700	0-21%	
1 st														
CH	O	C	C	-2	2	10	46	Ø	0.2	9/6 4/5 CH	1528	141	25	
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
2 nd														
—														
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
3 rd														
—														
<p>Correct Any Abnormal Condition. Report Corrective Action Under Notes And in Log Book.</p>														
<p>Notes: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>														

mlee

Page 1

7/7/2008

3V INC

Date 4-9-14

TOX INSPECTION SHEET														
Gensv Initials	Valve Position			Pressures				Comb. Air % FCV 300-1	Cond. Pot @ DI Dike (Inch)	Flame Arrestor Inlet TE-100-1	Flare Stack Temp (F)	FT-6022 Process flow scfm	O2 %	
	To TOX FCV 100-1B	To Vent HV 601-OA	To Ground Flare HV-6022	filter sock Differential (in. W.C.)	Flame Arrestor Differential (in.W.C.)	Dilution Air % FCV 400-1	VFD% Speed DPAL 100-1							
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.	1475-1900	0-700	0-21%	
1 st <u>CH</u>	<u>O</u>	<u>C</u>	<u>C</u>	<u>-2</u>	<u>3</u>	<u>10</u>	<u>40</u>	<u>20</u>	<u>0.2</u>	<u>62</u>	<u>1576</u>	<u>138</u>	<u>25</u>	
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
2 nd <u>—</u>														
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
3 rd <u>—</u>														
<p>Correct Any Abnormal Condition. Report Corrective Action Under Notes And in Log Book.</p> <p>Notes: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>														

mlee

Page 1

7/7/2008

3V INC

Date 4-10-14

TOX INSPECTION SHEET														
Gensv Initials	Valve Position			Pressures				Comb. Air % FCV 300-1	Cond. Pot @ DI Dike (Inch)	Flame Arrestor Inlet TE-100-1	Flare Stack Temp (F)	FT-6022 Process flow scfm	O2 %	
	To TOX FCV 100-1B	To Vent HV 601-OA	To Ground Flare HV-6022	filter sock Differential (in. W.C.)	Flame Arrestor Differential (in.W.C.)	Dilution Air % FCV 400-1	VFD% Speed DPAL 100-1							
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.	1475-1900	0-700	0-21%	
1 st RC	O	C	C	-2.0		60	33	Ø	OK	48	1585	141	25	
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
2 nd —														
Target	Open	Closed	O/C	Record	Record	Record	Record	Record	<6	<250 F.				
3 rd —														
<p>Correct Any Abnormal Condition. Report Corrective Action Under Notes And in Log Book.</p> <p>Notes: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>														

mlee

Page 1

7/7/2008

I worked with how Country Fire Co.
time today.

I hooked up the King nipple on the discharge -
end of over glycol pump, at the strip pump -
colled hose back up on pump - ready what
needed to add glycol to #6 - did not have

If needed add 2 → 300 gal tanks 0846F
Try to get #6 to -10 SAT. per. Todd #

(Roll freeze pt.)

Chiller 6A.

Add Glycol (1.30 given tons) to

car compressors.

Change filter media on K-002

WK-3rd

Temp back on line at 14:00.

Freeze pt. frozen on

Lowering cooling tower level 3 pps

Heated up C-303 & 5th pump #3

Revised wash fuel change from V-381.

Pulled sample on V-594 A3 & put in LAB.

Start down cooling tower #4A.

Revised X-7ur from V-491 to V-594 A3

Got Results on V-594 A2 Rusty good X-7ur to WTP

Working with CC Boiler on #1 Boiler

Received tomorrow from church

Thur Charles 1-3-14

Surge in bad shape. Cold cond. coming back
causing a lot of hammering. Water on water
supply to surge TR started leaking. Kept
close eye on water levels through out shift

John 2-25 05/29/2014

- Received turn over from Thott.
- Sending Ave. basin to water.
- A2 truck made a delivery, the had a hydraulic hose burst. Helped clean up.
- Heated G-303 and started stripping C98
- Pulled the V-584 sample and logged it in.
- Low dry air psi - re-set #3 stopped by alarm.
- Added chemicals to the chemical feed tanks for the boilers.
- Blew boilers down

- Shift 1-W 3-30-14
- Received Turnover From Sohn
- Received waste fuel change from J381
- Shut down str. pump & filled V-584 C98 sample & put in LAB.
- V-7200 V-405 TO V-584 & waste to V-369.
- Checked Equipment & Ran Test on Cooling Tower H2O
- General Chn. O.K.
- No oil at Epsilon OATSUN checked that Plant
- V TK 511 & TK 512.
- Got Rivets on V-584 good V. Filling TO WTH.
- Low Temp Alk on TK 334 Building top meter.
- Note Running THK TO Brandon Ext. H.S.W.D. 30A QUSE
- Changed 3 30 Amp Fuses Back Running Also changed H40
- Built in BAO Shop.
- Receiving V-720 from V-444 TO V-584 C98
- Lost Tower TO Plant AT 1700 Head TO KASTAT
- Empty thing manually Sohn came in AT 17:30 & helped me

ицаг

back up.

Convert the value to the Oxidizer.

County water ran low, started County

water meter is working now.

Started waste and strip.

Exhibit 29 DocId:34567890 # 2 cat 1 Oct 1:56

Red Arrow Lake, ending 1900s, there

Reviews still not working in the coffee!

Don Cassel, 10/6/95

Sent Delta catch pot to U-369 box.

~~SECRET~~

Proven air switch failed, had to reset in

Janusz - d.

2x15 down from 2530 to 0250

50/11/1922

filter #2 down cycled off, waste
off, Stripper off.

Pt. Stripper off.

Waste burning / Stripper back up.

20 3 20

Restored #2 boiler cycled as restored

Started E.O. unit.
Regulator to compressed Air tank
Comp. not working. Had to rig a hook up

Worked @ main lab Tech bldg. there for

Made waste fuel X-fer

Used 1/2 hp fan motor

5# LAKRO 1543

M# SH20530A-B

Started manually, but will drop out high
Humps. Feeders

Tractor. Told Wayne fan motor can be

Tomorrow. Also worked on the peroxide

Broke wire under ground. will finish up

Worked with Wayne the peroxide Bldg.

Worked with Wayne the peroxide Bldg.

Worked with Wayne the peroxide Bldg.

Received turnover from Ruff

Church 3-31-14 and

looking in to it

Went over trapline with Toy with traps in the is

Trilled with water samples on Pw + DMU + put in LAB.

Trilled 1586 sample egg + put in LAB.

changed bottom sock dirty + wet.

checked equipment. found some fluid off line at 7A

I also told him about the units on Boy's Food Buildings

issue the order of 1432 + 144 for ceiling tower

Went to look at this old sock about 10:00

Went to look at this old sock about 10:00

Received turnover from John.

3-31-14

Ruff

- Received turnover from Church.
- Checked on the results for V-586, none.
- Blew down boilers.
- #2 boiler cycled off. Started waste back.
- Called Bus Hospital, had him use more steam.
- Alpha still on the jet vac, baby sitting.
- Went into the stack room with Delta for SS 3/4" valve and SS 3/4" close nipple.
- Added chemicals to the chemical boiler.
- feed tanks. Couldn't get feed water samples - taps not working, will try and free up Tuesday night.
- 70 unit off 0642 hrs 16.0'

Rhett 4-1-14 1st

- Received turnover from John
- Got results on V-586 (99 good X. firing to work)
- Rebuilding X-3A from V-44C D100 to V-584
- Pumped in C-1432 at cooling tower Chem Oxide put on Drum in storage.
- Ran first on cooling tower after out of state to check phosphate
- Almost out of C-1432 Phos & Iron.
- Received west field change from V-581
- Checked Equipment & filled out shipping V-157.
- Pulled V-584 sample 1000 + 100 in C-1432.

the Shop.

Worked on the gravel road across from day tank @ waste water. Rumped the rest of the bleach into the day tanks.

Rumped in the boiler chemicals in the Replaced a coupling in Delta Dike. pulled V-set sample.

Heated up C-303 and started stripping. Charles Blew down both boilers. drums from boilers. Put the @ the drum rack. Took the cables off of two 55 gallon chemical Received turnover from Charles.

John
one
04/08/2014

Put a 2" clamp pull on system 2 line hole by #5 generator area.

V-586-1514D108 5.711 going to work. #1514D109 sample in the lab. Beta and Epilim, Completed the X-L to V584-1514D109. Tested & Recorded the AT Turner Chemistry. probably will finish tapping off. Getting with Alan B. Beta sending V440#1514D109 to V584-1514D108 good-going to work.

Got the #15 on V-586-1514D108 good-going. Completed Equipment Checks. Drained main water from Gen. SV, dikes. Filled out the Gen. SV, housekeeping form. I pulled V-586-1514D108 sample in the lab. ~~High level of chlorine that has leaked out of the tank. High level of chlorine that has leaked out of the tank. High level of chlorine that has leaked out of the tank.~~

Blew down boilers (2x15) Received turnover from Robert. Charles
04/08/2014
10:54 AM

STC
 #2 feed pump - just came in on a car tank
 Beta send #1514D110 - came back good - guy to work
 Run tests on the C Tower - Chemistry
 Rec'd #3 Comp. on #5 Chiller - Locked - discharging
 Completed Equipment Checks
 I pulled V-586 - 1514D110 - Sample in the lab.
 on steam pressure.
 Beta off the pt use - back to normal pressure
 Put a N2 gauge on the first DTA of Oxidizer
 Beta on the pt use.
 Called Esol in - had to shut down a Column -
 Filled out the housekeeping form
 Took a Comp. Fuel charge to TK 253 from V387
 (2x5)
 Received Turner from Ruff.
 Charles 04/09/2014 1st shift
 Shut Down V360 FC 1.5
 Filled V584 sample D110 & put in Lab
 X-Fuel V405 to V584
 Running X-Fuel from V441 & TK 510 to V584
 Got Results on V360 and X-Fuel to WTP 5L12
 Got Results on V586 D109 and X-Fuel to WTP 259m:30 OKD by Mike.
 Low Temp Alarm 4C - 22 changed suction 5 ft ft from 16 to 19 psi
 Filled V586 sample D109 & put in Lab.
 First DTA Rung at 700 valve in East DTA put steam on West
 Shut Down Both Boilers 2x5.
 High Temp 125 Chiller - Reset system 3 low discharge super heat
 Started RO unit
 #2 Boiler went Down Low H2O & started burning waste fuel
 Ran test on Boiler H2O & added chemicals
 Received Turner from SOHA
 4-8-14 3rd Shift

Check 4/10/14 1st
Received furnace from Charles
Started equip. check. Still need hot oil
burner reading & filter by reading
Leak it on spraymaster

4-09-14 3rd
Received furnace from John
Ran test on boiler #2 & added chemicals
Shut down stripper & pulled V-586 sample into what in LAB.
Started to unit.
V-584 1.405 to 1.584 & filled evenly with tank.
Received waste fuel change from V-581
Got Kerosene on V-582 still failed 279 = 50 x filling V-586 to V-584 to 1.257.
Heated up C-303 & filling D-111

John 222 04/09/2014
Received furnace from Charles
Blew down both boilers.
#1 ran low on water shut off, reset
and started back.
Reset #3 comp. on #5 chiller
Started burning waste again. Adjusting
PSI on the boilers.
Pulled the check valve on the discharge
side of V-01 pump & the C-01 and cleaned.
It was pumping out and filling right back up.
Heated C-303 and started stripping
the batch.
Pulled a V-584 sample and logged it in.

for the boiler, at the End of.

made waste fuel x-fer from V-381
 Plugged in the bldg for fire protection gear
 Reset #2, 3, 4 comp. on 5th chiller
 Discharge psi on the chiller was wrong 100psi.
 Changed set point to 180 psi. Now running
 correctly. Every time power goes off we need
 to make sure this resets
 Info for boiler inspection - Star Tech.
 pulled V-56 & logged lab
 Added go to country water V.
 Talked with Maint. They are going to fix
 discharge line the chiller dike pump
 first of next week

2-W

4-11-14

Rhet

Received Turbine from Church
 Ran test on Boiler H2O & added chemicals
 High Temp on the chiller changed set point from 18 to 16 psi
 High Temp on #5 chiller reset system & low discharge pressure
 Got results on V-586 PLS good & flowing to WTP.
 Receiving x-fer from V-491 to V-584 D114
 Received waste fuel change from V-381.
 Hunted up 1303 & ST. Hopping D114
 Filled V-584 sand. D114 & put in LAB
 Shut down ST. Hopping & filled V-584 PLS what in LAB.
 Power surge TX down trying to reset, down with power
 Shut down Ristard, 1002 & 1003 shut down Ristard.
 #2 Boiler shut down Ristard running with again.

8/14/2014 10:55:39 AM

3V Inc.

Page: 1

WORK ORDER - URGENT

Work Order: 107977

Description: Cryogenic condensor replace positioner on XV-04A

Asset ID:	Model:	Sch Date: 2/11/2014
Asset:	Serial No:	Add Date: 2/11/2014 9:09:40 AM
Procedure: LOCK-OUT/TAG-OUT AND SAFETY INS	Location:	Priority: 0
Master WO ID	Building: 68 area, cool twr	Shift:
Requested By: wcox	Floor: gnd Room:	Supervisor:
Telephone:	Elec Line:	Status: Completed
Request ID: 2370	Asset ShutDn: <input checked="" type="checkbox"/> Plant ShutDn: <input type="checkbox"/>	Skill:
Warranty:		Assigned To:

Labor:		Assigned To	Cost ID	Est Hrs	Rem Hrs	Reg	Over	Double	Other	Date
Craft Description	Labor Description									
E/I TECH		<input type="checkbox"/>		0.00	0.00					/ /

Task: 1 ID: SAFETY Description: Work Order Safety Instructions

Safety: ☒ Text: REV. (0) 7/15/05

LOCKOUT/TAGOUT

Inform system operator that the identified piece of equipment is required to be locked out electrically. Operator must identify and place the plant's lock and tag on all sources of electrical energy. Technician performing the work must also place his/her lock and tag on all sources of electrical energy identified by the operator and person performing work. Determine where the equipment's start and stop button is located. Try to start the equipment three (3) times to ensure that the proper electrical energy source was locked and tagged.

Circle those items that apply:

Chemicals In/On Equipment _____

Clean / Neutralize Equipment with _____

Plant Running

Other Work Adjacent To This Work

Flammables Within _____ ft

Vent of Flammables Within _____ ft

Electric Cabling Underground _____ ft

Pipelines Underground _____ ft

Insert Blinds Yes / No

Isolate by Removing Pipes

Implement Lock-Out Procedures

Isolate Work Area With Barricade

Follow Confined Space Procedure

Eye / Face Protection

Dermal Protection Required

Fall Protection Required

Respirator Required

Forced Ventilation Required

Access With Forklift / Other Vehicle

Process Safety Management Covered System

Check Atmosphere for Oxygen, Every _____ hrs

Check Atmosphere for Toxicity, Every _____ hrs

Check Atmosphere for Explosivity, Every _____ hrs

Special Requirements _____

Safety Instructions Completed By (Signature & Date Required)

Comments: Cryogenic condensor replace positioner on XV-04A

8/14/2014 10:57:37 AM

3V Inc.

Page: 1

WORK ORDER - URGENT

Work Order: 107564

Description: Cryogenic condensor panel, elect failure

Asset ID:	Model:	Sch Date: 12/31/2013
Asset:	Serial No:	Add Date: 12/31/2013 11:19:44 AM
Procedure: LOCK-OUT/TAG-OUT AND SAFETY INS	Location:	Priority: 0
Master WO ID	Building: General serv area	Shift:
Requested By: wcox	Floor:	Room:
Telephone:	Ext:	Elec Line:
Request ID: 1932	Asset ShutDn: <input checked="" type="checkbox"/>	Plant ShutDn: <input type="checkbox"/>
Warranty:		Status: Completed
		Assigned To: KHOLLINGSWORTH

Labor:		Assigned To	Cost ID	Est Hrs	Rem Hrs	Reg	Over	Double	Other	Date
Craft Description	Labor Description									
E/I TECH		<input type="checkbox"/>		0.00	0.00					/ /
E/I TECH		<input type="checkbox"/>		0.00	0.00					/ /
E/I TECH		<input type="checkbox"/>		0.00	0.00					/ /

Task: 1 ID: SAFETY Description: Work Order Safety Instructions

Safety: ☒ Text: REV. (0) 7/15/05

LOCKOUT/TAGOUT

Inform system operator that the identified piece of equipment is required to be locked out electrically. Operator must identify and place the plant's lock and tag on all sources of electrical energy. Technician performing the work must also place his/her lock and tag on all sources of electrical energy identified by the operator and person performing work. Determine where the equipment's start and stop button is located. Try to start the equipment three (3) times to ensure that the proper electrical energy source was locked and tagged.

Circle those items that apply:

Chemicals In/On Equipment _____

Clean / Neutralize Equipment with _____

Plant Running

Other Work Adjacent To This Work

Flammables Within _____ ft

Vent of Flammables Within _____ ft

Electric Cabling Underground _____ ft

Pipelines Underground _____ ft

Insert Blinds Yes / No

Isolate by Removing Pipes

Implement Lock-Out Procedures

Isolate Work Area With Barricade

Follow Confined Space Procedure

Eye / Face Protection

Dermal Protection Required

Fall Protection Required

Respirator Required

Forced Ventilation Required

Access With Forklift / Other Vehicle

Process Safety Management Covered System

Check Atmosphere for Oxygen, Every _____ hrs

Check Atmosphere for Toxicity, Every _____ hrs

Check Atmosphere for Explosivity, Every _____ hrs

Special Requirements _____

Safety Instructions Completed By (Signature & Date Required)

Comments: Cryogenic Condensor panel , electrical failure. Trouble shoot and repair

Procedure Comments: installed new drive and programmed

ATTACHMENT E**New Operating Scenarios**

MCPU	Process	Equip ID	Use	Category	Control Device
No new operating scenarios					

ENFORCEMENT CONFIDENTIAL

FOIA EXEMPT
Appendix E

DO NOT RELEASE

Subpart UU LDAR Report

ATTACHMENT F

b(1)(iv) AGITATORS All Subpart FFFF Units							
Date Monitored:	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Total
No. Agitators Monitored During Period:	24	24	25	24	24	24	145
No. Agitators Leaking During Period:	0	0	0	0	0	0	0
No. Agitators Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Agitators for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(v) COMPRESSORS

No compressors in HAP service.

(b)(2) Delay of Repair.

No. of Delay of Repair Events: 0

(b)(3) Valve Subgrouping Information of 63.1025(b)(4)(I)

Not Applicable

(b)(4) PRESSURE RELIEF DEVICES GV SERVICE

Date of Test: None

Concentration [ppm]: NA

(b)(5) Initiation of monthly monitoring for valves:

Not Applicable

(b)(6) Quality improvement program for pumps

Not required due to low leak rate for pumps.

(b)(7) Alternative means of emission limitations.

Pressure test report attached.

(b)(8) No units with later compliance dates at the facility.

ATTACHMENT F
ADDENDUM 1
FID MONITORING DETAIL

FID MONITORING DETAILS BY AREA

Jan-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	3	0	0	0	4	0	0	0
05 - Gamma	13	0	0	0	7	0	0	0
06 - Delta	11	0	0	0	13	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	54	0	0	0	24	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Feb-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	3	0	0	0	4	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	54	0	0	0	24	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Mar-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	9	0	0	0	5	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	60	0	0	0	25	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Apr-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	3	0	0	0	4	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	54	0	0	0	24	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

May-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	3	0	0	0	4	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	54	0	0	0	24	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Jun-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	3	0	0	0	4	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	54	0	0	0	24	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

ATTACHMENT F
ADDENDUM 2
LEAK LOG

LEAK LOG FOR MON REPORT JAN 1, 2014 - JUNE 30, 2014							
Leak Date	Component	Equipment	Initial Reading (ppm)	First Attempt Date	Final Repair Date	Final Reading (ppm)	Comments
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:

no leaks were monitored and reported for the 1st half 2014 on all MON equipment
no visual leaks were monitored and reported for the 1st half 2014 on all MON equipment

ATTACHMENT F**ADDENDUM 3
PRESSURE TEST REPORT**

Annual pressure testing of storage tanks and process equipment completed during this reporting period are included in the following attachment. Any storage tank that was not tested during the first half of 2014 will be tested and reported on the next semi-annual.

Process equipment is being checked using method 21, and the components checked are included in Subpart UU report. Pressure testing is not being used as a compliance method for process equipment.

PRESSURE TEST REPORT FOR PERIOD JAN 1, 2014 TO JUNE 30, 2014

Eq. ID	No. Tests	No. Fails	Facts Re DoR	Date
02TK102	0	0	main TF	n/a
02TK103	0	0	main TF	n/a
02TK104	0	0	main TF	n/a
02TK210	26	0	main TF	weekly
02TK251	1	0	main TF	1/9/2014
02TK254	0	0	main TF	n/a
02TK256	0	0	main TF	n/a
03C305	1	0	a/b	4/28/2014
03D130	1	0	a/b	6/3/2014
03D131	1	0	a/b	4/23/2014
03D301	1	0	a/b	4/28/2014
03FP301	1	0	a/b	4/28/2014
03FP303	1	0	a/b	4/28/2014
03FP401	1	0	a/b	6/3/2014
03R101	0	0	a/b (not run under pressure)	n/a
03R150	0	0	a/b (not in use, empty)	n/a
03R151	1	0	a/b	4/22/2014
03R301	1	0	a/b	4/21/2014
03R302A	1	0	a/b	5/27/2014
03R302B	2	0	a/b	6/3/14 + 4/13/14
03R304	1	0	a/b	6/3/2014
03R305	1	0	a/b	4/28/2014
03R307	1	0	a/b	5/20/2014
03R308	1	0	a/b	6/2/2014
03SE301	1	0	a/b	1/13/2014
03SE302	1	0	a/b	4/28/2014
03TK111	1	0	a/b	5/20/2014
03TK301	0	0	main TF	n/a
03TK310	0	0	main TF	n/a
03TK311	0	0	main TF	n/a
03TK338	0	0	main TF (no HAP)	n/a
03TK361b	0	0	main TF	n/a
03TK382	0	0	main TF (no HAP)	n/a
03V309	0	0	main TF	n/a
03V310	0	0	main TF	n/a
03V322	0	0	a/b (no HAP)	n/a
03V323	1	0	a/b	6/2/2014
03V324A	1	0	a/b	6/2/2014
03V358	0	0	a/b	n/a
03V369	0	0	main TK farm	n/a
03V374	1	0	main TK farm	1/16/2014
03V375	1	0	a/b	4/28/2014
03V376	1	0	a/b	4/28/2014
03V380	0	0	a/b (no HAP - WW)	n/a
03V432	1	0	gamma	2/27/2014
03VA301	1	0	a/b	4/28/2014
04R402	0	0	gamma	n/a
04R403	0	0	gamma	n/a
04R406	0	0	gamma	n/a



888 Woodstock Rd Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

February 28, 2015

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

Enclosed is the second-half 2014 semi-annual report for 3V inc. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

Scott McNair
VP of Plant Management



888 Woodstock Rd Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

February 28, 2015

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

Enclosed is the second-half 2014 semi-annual report for 3V inc. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, reading 'Scott McNair'. The signature is written in a cursive, flowing style.

Scott McNair
VP of Plant Management

SUBPART FFFF (MON) COMPLIANCE REPORT

Semiannual Report

for

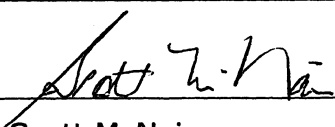
3V, Inc.

Covering
July 1, 2014
through
December 31, 2014

Submitted on February 28, 2015

MON Compliance Report

63.2520 (e) (1) Company Name and Address	
Company Name	3V, Inc.
Street Address	888 Woodstock Road
City, State Zip Code	Georgetown, SC 29440
Mailing Address:	888 Woodstock Road
City, State Zip Code	Georgetown, SC 29440
Contact Person	Vince Centioni
Title	Environmental Manager
Telephone	843.520.0128
Fax	843.546.0007

63.2520 (e) (2) Certification of Truth, Accuracy, and Completeness	
Last Name	McNair
First Name	Scott
Title	Plant Manager
Telephone	843-520-0146
Fax	843-546-0007
I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.	
Name (signed)	
Name (printed)	Scott McNair
Date	02/28/2015

63.2520 (e) (3) Date of Report; Reporting Period	
Date Report Submitted:	February 28, 2015
Start of Reporting Period:	July 1, 2014
End of Reporting Period:	December, 2014

TABLE OF CONTENTS

1. INTRODUCTION
2. MON COMPLIANCE REPORT RESPONSES
3. ATTACHMENTS
 - A. Excess Emission Events from Start Up, Shutdowns or Malfunctions
 - B. Information On Deviations For Systems Without CMS
 - C. Information On Deviations On Systems With CMS
 - D. Copies of Operating Logs of Sources Using CMS for Compliance (68H002 Thermal Oxidizer).
 - E. Operating Scenarios
 - F. Report for Subpart UU (LDAR Summary).

1. INTRODUCTION

3V Inc. is subject to the Miscellaneous Organic NESHAP 40 CFR Part 63 Subpart FFFF for organic chemical manufacturing processes in unit ID's 04, 05, 06 and 07. The facility is also subject to the Pharmaceutical MACT 40 CFR Part 63 Subpart GGG in unit ID 04. The purpose of this notification is to document the facility's compliance status with Subpart FFFF.

This report has been formatted by following the periodic report section of Subpart FFFF located in 63.2520 (e). Specific CFR citations are listed in their order with a response to each. In some cases it was convenient to prepare the information requested in a separate report. In these cases that report is provided as an attachment.

2. MON COMPLIANCE REPORT RESPONSES

63.2520 (e) (4) *Records showing that for each SSM during which excess emissions occurred, procedures specified in the SSMP were followed. Documentation of actions taken that were not consistent with SSMP. Brief description of each malfunction.*

Provided in Attachment A is a list SSM events that may have resulted in excess emissions. This list comprises all events involving a malfunction or shutdown of control devices. The facility SSM Plan requires operators to reduce production activity to minimize emissions during control device service interruption until the unit can be restarted or back-up systems can be put in place.

Note 1: The 68H001 Flare was down from July 19th – November 3rd. The insulation inside the unit needed to be replaced due to a 'mod' motor failure. The failure caused the flame to burn through the insulation. A scheduled planned maintenance activity was conducted on November 2nd. The 68H001 flare is strictly used as a back-up emergency control device to the thermal oxidizer 68H002. The only days when the thermal oxidizer needed back-up support were on November 2nd and November 3rd. See Table 63.2520(e)(5)(iii)(L).

Note 2: There was a planned shutdown of 01CE01 and 02CE02 cryogenic condenser from December 21st 2014 – December 27th 2014. During this time period the entire facility was shut down and not operating due to the Christmas holidays. Prior to starting the facility back up, the cryogenic condenser was restarted. During the planned facility shut down there was no venting to the monitoring device. This facility wide shutdown will not be included in total operating time.

63.2520 (e) (5) (i) *Statement indicating there were no deviations from any emission limit, operating limit, or work standard during the reporting period.*

Not Applicable.

63.2520 (e) (5) (ii) *For each deviation from an emission limit, operating limit, and work standard that occurred at an affected source where CMS is NOT used to comply with same provide the following....*

63.2520 (e) (5) (ii) (A) *Total operating time of the affected source during the reporting period,*

Total operating time during reporting period was 4176 hours.

63.2520 (e) (5) (ii) (B) *Information on number, duration, and cause of deviations, and corrective action taken for deviations including periods of SSM.*

No deviations from systems where CMS is NOT used to comply with regulations.

63.2520 (e) (5) (ii) (C) *Copies of operating logs of processes with batch vents from batch operations on day(s) during which deviation occurred for those deviations from emission limits, operating limits, and work standards, occurring at an affected source where CMS is NOT used to comply with same. Include periods of SSM.*

Not applicable.

63.2520 (e) (5) (iii) *For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, include the following information:*

63.2520 (e) (5) (iii) (A) *Dates and times that each CMS was inoperative for sources where CMS is used to comply with emission limits and operating limits.*

See Attachment B for CMS downtime details.

63.2520 (e) (5) (iii) (B) *Date, time, and duration that each CMS was out-of-control.*

No periods of CMS out-of-control during this reporting period.

63.2520 (e) (5) (iii) (C) *Date and time that each deviation started and stopped, and information on whether the deviation occurred during SSM, for deviations at sources where CMS is used to comply with emission limits and operating limits.*

See Attachment C.

63.2520 (e) (5) (iii) (D) *Summary of the total duration of deviations occurring during the reporting period, and total duration as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

There have been no deviations from the temperature limits listed in Table 63.2520 (e) (5) (iii) (I) below from the cryogenic condensers. The thermal oxidizer temperature was below the limit in Table 63.2520 (e) (5) a total of 18.5 hrs or 0.44% of the total operating time.

63.2520 (e) (5) (iii) (E) *Breakdown of total duration of deviations into startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes for deviations at sources where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (E) Breakdown of Total Duration of Deviations into Various Categories for 68H002.					
Startup	Shutdown	Control Equipment Problems	Process Problems	Other Known Causes	Other Unknown Causes
0	0	18.5	0	0	0

63.2520 (e) (5) (iii) (F) *Summary of total duration of CMS downtime during reporting period, and as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (F)				
Summary of Total Duration of CMS Downtime.				
Device	Monitor	Parameter	Duration of downtime [hours]	Percentage of downtime [%]
68H001	68TT6001	Temperature	2.0	0.05
68H002	68TT300_3	Temperature	2.0	0.05

63.2520 (e) (5) (iii) (G) *Identification of each HAP known to be in the emission stream from each source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (G) HAP's in Emission Streams.	
Device ID using CMS	List of Known HAP's in Emission Stream
68H002	Acetaldehyde, Acrylamide, Acrylonitrile, Ethyl acrylate, Methanol, Vinyl Acetate, Xylene
01CE01 & 01CE02	Methylene Chloride

63.2520 (e) (5) (iii) (H) Brief description of process units.

The facility consists of batch chemical manufacturing process units, wastewater treatment units, storage tanks, and air pollution control equipment for the reduction of organic HAP's including: two thermal oxidizer units (68H001 and 68H002) and a cryogenic condenser system, 01CE01, 01CE02. All batch process vents containing methylene chloride are routed to the cryogenic condenser. For the process vents, the cryogenic condenser has been determined to be a process condenser and the vents are collectively Group 2. For storage tanks the cryogenic condenser has been determined to be a control device. There are no continuous process sources.

The affected source includes the MCPU's listed in the table that follows.

Table 63. 2520 (e) (5) (iii) (H) Chemical Manufacturing Processes Operating during the reporting period.	
MCPU	Chemical Manufacturing Processes
04 – Alpha/Beta/Epsilon Plant	Extrapin, Luxus 5, Tabanol 1, Tabanol NA, Tabanol G, Tabanol 5, and Tabanol P.
05 – Gamma Plant	Tabanol 5
06 – Delta 1 Plant	Efram CR, Tabanol 1 and Tabanol 2
07 – Delta 2 Plant	Tabanol 5

63.2520 (e) (5) (iii) (I) Brief description of CMS.

There were three control devices used by the facility for compliance with Subpart FFFF during the reporting period. These include flare 68H001, thermal oxidizer 68H002 and the cryogenic condensation system 01CE01 and 01CE02. Flare 68H001 serves as a back up to the thermal oxidizer for downtime due to malfunctions and routine scheduled maintenance. The table that follows lists the continuous monitoring for each device.

Table 63.2520 (e) (5) (iii) (I) Parametric Monitoring Required for Control Devices.				
Device	Parameter	Basis for Parameter	Limit	Basis for Limit
68H001	Combustion Temperature	63.988(c)(1)	1464 °F	Average temperature from test
68H002	Combustion Temperature	63.988(c)(1)	1476 °F	Average temperature from test
01CE01	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation
01CE02	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation

63.2520 (e) (5) (iii) (J) Date of latest CMS certification or audit.

See table that follows.

Table 63.2520 (e) (5) (iii) (J) CMS Certification/Audit Dates.		
Device ID	Monitoring Equipment	Date of Latest CMS Certification/Audit
68H002 Thermal Oxidizer	68TT300-3	Calibrated 07/07/2013
68H001 Ground Flare	68TT6001	Calibrated 07/25/2014
01CE01 Cryogenic Condenser	01TI 26	Calibrated 07/17/2014
01CE02 Cryogenic Condenser	01TI 27	Calibrated 07/17/2014

63.2520 (e) (5) (iii) (K) *Operating logs of processes with vents from batch processes for each day of a deviation where CMS is used to comply with deviations from emission limits and operating limits.*

See Attachment D.

63.2520 (e) (5) (iii) (L) *Operating day average values of monitored parameters for each day during which there was a deviation for sources where CMS is used to comply with emission limits and operating limits.*

Not applicable.

Table 63.2520 (e) (5) (iii) (L) Operating Day Average Values for Each Exceedance Date.			
Date	Device	Monitor	Average, °F
11/02/2014	68H002	68TT300-3	928
11/03/2014	68H002	68TT300-3	1066

Note:

See operator logs. Control equipment problems were the root cause. Device 68H002-TOx experienced a malfunction while the 68H001-flare was shutdown and being repaired.

63.2520 (e) (5) (iv) *Records associated with each calculation required by 63.2525 (e) that exceeds an applicable HAP usage or emissions threshold.*

Emission calculations used to designate Group 2 process vents in the NOCS. No Group 2 process vents relying on HAP usage demonstration.

63.2520 (e) (6) *Statement indicating no periods of out-of-control CEMS.*

Not applicable. Facility does not use CEMS for compliance with Subpart FFFF.

63.2520 (e) (7) *New operating scenarios not already submitted.*

See Attachment E for new operating scenarios since last periodic report. Emissions from this source were included in the construction permit application for the installation of the cryogenic condensation system (CP-FJ).

63.2520 (e) (8) *Records of process units added to a PUG; records of primary product re-determinations.*

Not applicable.

63.2520 (e) (9) *Records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part, and subpart F of 40 CFR 65.*

Information requested in Subpart SS is provided in sections 63.2520 (e)(5)(iii) of this report. See Attachment F for Subpart UU report.

63.2520 (e) (10) *Process changes.*

Beginning September 2014 Tabanol 1 production stopped in AlphaBeta. At the end of September 2014 Tabanol 2 and Efram CR batch sizes increased. These changes were documented in our OSIL.

ATTACHMENT B**Detailed Information On CMS Downtime**

Control Device	Monitor ID	Date	Time	Duration, hrs
68H002	68TT300_3	7/18/2014	09:49	2.0
68H001	68TT6001	7/18/2014	09:49	2.0

Note:

Due to a power outage there was a brief RS view communication loss to the server, as a consequence all data logging for the TOX and Flare stopped recording for 2 hours. During this time frame there was no significant TOX and/or Flare startup, shutdown, malfunctions recorded in operational logs. The thermal oxidizer temperature stayed > 1500 degrees F during this CMS downtime PER General Services field monitoring.

ATTACHMENT A**Excess Emission Events from Start Up, Shutdowns or**

Fail Date	Fail Time	Duration Hours	Unit	SSMP Followed?	Cause – Corrective Action
7/2/2014	08:00	0.2	68H002	Yes	High temp. Reset restarted. Flare online
7/8/2014	08:17	0.5	68H002	Yes	High temp. Reset restarted. Flare online
7/10/2014	11:30	0.3	68H002	Yes	High temp. Reset restarted.
7/14/2014	23:05	0.7	68H002	Yes	High temp. Reset restarted.
7/16/2014	16:19	0.2	68H002	Yes	High temp. Reset restarted. Flare online
7/18/2014	08:35	0.2	68H002	Yes	High temp. Reset restarted. Flare online
7/18/2014	16:30	0.2	68H002	Yes	High temp. Reset restarted. Flare online
7/19/2014	00:45	1.3	68H002	Yes	High temp. Reset restarted. Flare online
7/22/2014	01:06	0.1	68H002	Yes	High temp. Reset restarted.
7/24/2014	09:55	0.2	68H002	Yes	High temp. Reset restarted.
7/25/2014	03:40	1.0	68H002	Yes	High temp. Reset restarted.
7/25/2014	06:05	1.0	68H002	Yes	High temp. Reset restarted.
7/25/2014	18:00	0.75	68H002	Yes	High temp. Reset restarted.
7/28/2014	21:20	0.17	68H002	Yes	High temp. Reset restarted.
7/28/2014	21:50	0.17	68H002	Yes	High temp. Reset restarted.
7/28/2014	22:15	0.20	68H002	Yes	High temp. Reset restarted.
7/30/2014	05:50	0.20	68H002	Yes	High temp. Reset restarted.
7/30/2014	06:05	0.17	68H002	Yes	High temp. Reset restarted.
7/30/2014	06:18	0.28	68H002	Yes	High temp. Reset restarted.
7/30/2014	08:56	0.10	68H002	Yes	High temp. Reset restarted.
8/2/2014	06:10	0.17	68H002	Yes	High temp. Reset restarted.
8/4/2014	07:54	0.17	68H002	Yes	High temp. Reset restarted.
8/6/2014	10:21	0.17	68H002	Yes	High temp. Reset restarted.
8/6/2014	10:35	0.17	68H002	Yes	High temp. Reset restarted.
8/6/2014	10:50	0.25	68H002	Yes	High temp. Reset restarted.
8/9/2014	05:00	0.35	68H002	Yes	High temp. Reset restarted.
8/11/2014	07:35	0.17	68H002	Yes	High temp. Reset restarted.
8/11/2014	07:55	0.17	68H002	Yes	High temp. Reset restarted.
8/12/2014	13:30	0.17	68H002	Yes	High temp. Reset restarted.
8/18/2014	21:35	0.17	68H002	Yes	Burner flame failure. Reset restarted.
8/19/2014	18:18	0.17	68H002	Yes	Burner flame failure. Change sock, switch DFA. Restarted
8/22/2014	19:55	1.20	68H002	Yes	High temp. VFD fault. Reset VFD. Started backup.
9/9/2014	02:00	0.25	68H002	Yes	High temp. Reset restarted.
9/12/2014	17:20	0.17	68H002	Yes	High temp. Reset restarted.

9/16/2014	16:15	0.42	68H002	Yes	High temp. Reset restarted.
10/1/2014	17:25	0.25	68H002	Yes	High header temp, changed socks, switched DFA and reset and restarted.
10/14/2014	10:10	0.25	68H002	Yes	High temp. Reset restarted.
10/14/2014	13:05	0.17	68H002	Yes	High temp. Reset restarted.
10/14/2014	13:25		68H002	Yes	High temp. Reset restarted.
10/14/2014	16:20	0.25	68H002	Yes	High temp. Reset restarted.
10/14/2014	19:30	0.25	68H002	Yes	High temp. Reset restarted.
10/14/2014	21:35	0.30	68H002	Yes	High temp. Reset restarted.
10/18/2014	19:45	0.10	68H002	Yes	High temp. Reset restarted.
10/18/2014	19:55	0.17	68H002	Yes	High temp. Reset restarted.
10/21/2014	14:50	0.08	68H002	Yes	High temp. Reset restarted.
10/24/2014	15:55	0.25	68H002	Yes	High temp. Reset restarted.
10/27/2014	09:20	0.25	68H002	Yes	High temp. Reset restarted.
10/27/2014	09:50	0.30	68H002	Yes	High temp. Reset restarted.
10/28/2014	17:30	0.30	68H002	Yes	High temp. VFD fault. Changed bottom sock. Reset restarted.
10/28/2014	18:50	0.10	68H002	Yes	High temp. Sock plugged. Changed bottom sock. Reset restarted.
10/31/2014	15:57	0.40	68H002	Yes	High temp. Reset restarted.
11/7/2014	10:30	0.25	68H002	Yes	Purge timer stopped. Shut down, would not start. Started flare.
11/11/2014	18:15	0.08	68H002	Yes	High temp. Reset restarted.
11/24/2014	13:31	0.15	68H002	Yes	VFD fault. Restarted. Flare online.
12/11/2014	08:10	0.58	68H002	Yes	High level knock out pot. Valved in Flare. Drained knock out pot. Restarted.
12/18/2014	01:50	0.17	68H002	Yes	Shut down to replace DFA insert. Flare still online.
01CE01 & 01CE02					
7/2/2014	0705	11.0	Polaris	Yes	BL SUP fault. Replaced motor and fan for blower.
7/3/2014	1200	3.0	Polaris	Yes	Low air pressure XV II. Valve would not open. Repaired air compressor.
7/30/2014	2000	1.0	Polaris	Yes	K-001 air compressor down. Increase air pressure.
10/3/2014	1450	3.5	Polaris	Yes	Bad actuator valve. Replaced restarted.
10/6/2014	1954	0.6	Polaris	Yes	Fluid in blower. Drained restarted.
10/7/2014	0440	0.6	Polaris	Yes	Fluid in blower. Drained restarted.
10/12/2014	0725	0.6	Polaris	Yes	Low flow. High DP column 1. Restarted.
10/13/2014	0950	0.5	Polaris	Yes	Froze column 1. No flow. High DP. Thawed and restarted.
10/21/2014	2030	0.6	Polaris	Yes	Valve malfunction. Replaced air tube and restarted.
10/26/2014	1537	0.6	Polaris	Yes	K-001 air compressor down. Restarted.
11/19/2014	0700	0.8	Polaris	Yes	V-01 full, breaker tripped. Pump thawed out. Restarted.

12/8/2014	1600	0.8	Polaris	Yes	K-001 blower shut down. Remove ice from valve on top of column. Restarted.
-----------	------	-----	---------	-----	--

Notes: Omitted from the list are a number of minor events involving the cryogenic condenser (duration < 0.5 hr) that did not effect emissions. The system is passive and contains a large reserve of refrigeration capacity. Even when the unit shuts down vent gases continue to pass through the system at temperatures well below the limit.

2nd & Church 7-18-44
1st
Edward Turner from Chris.
found in p. C303 + striping 6814

3V Sigma USA, Inc.
Georgetown, South Carolina

Thad, Bill, Al came to check me I told them
Working on Tox all going to Flare-Hi-Flare
HV6023 was closed and would not open
tried several times
HV6010A showing Red - I click on it than
HV6023 opened up
Flare and Tox running - aWC 0200
Tox 1700 Temp
Flare 2250 Temp
Heavy Red smell
Called Alpha and Delta about problem if they
were venting a lot of VOC Delta NO Alpha
will shut dryer down so Header could clear
for 5-10 mins then come back on slow
Damon called Alan - he said to leave dryer
down, he think a lot of solvent in dryer
Switch to West FA and steering East FA out
ON Tox 02:00 ~~soot~~ in case - and
Change soot
- Full Boiler #2, Flare, and water sample, run
test loss in soot
- 03:00 Tox Fan speed is at 99% WC 1.6 10
Change soot WC 1.6 for speed 99% could not
switch - FA still on steam
- 05:00 remove steam from West FA put on
NA
- Xfering V586 1514 G 212 after finish
- shipping and got rats back from Lab
- Fill count water Tank
- Added chemicals to Boiler #2 feed tank
- Tox WC 086
Flare WC 01
Change soot 01
- 3B shut down on Low Oil level supervision
called gamma

584 in left
ZER-Smoke
Flare
3rd shift
5
05/11/70
Hwy - high
#2 River
enough
- shut
ozale.
ite fuel
this tank
ing up the
change
up some
book -
position
has going
- to work

3V Sigma U
Georgetown, South

- Heatid up C303 + STumping 2328 put V584 sample in LAD
 - Check extra to top off V584 Epsilon that sent waiting on 2nd flight
 - Low level TK30 put boilers on Recirc H2O
 - Filled empty water tank + took Phlegm sock to with open top
 - Changed bottom sock Phlegm
 - Tex West down high temp lead + standard logged in
 - Receiving X-17 from TK310 + V-441 to V584 + 2328
 - Got numbers on V586 L327 good X-17ing to with
 - Received Turner from John
- id 3/12/14
JMT

✓
Check if you have time can you
check freeze pants. Thanks Church

* Weekend Utility Shutdown *
- ~~Call~~ Plants requesting utilities
- must call on day first for approval

- Oxidizer down high temp SX
- Worked on the ground flare, it
- Manual made water not working
- Filled the man lift up with gas
- and moved it to the Stripper
- Pulled V-586 sample and logged in.

John
Received turnover from Charles
- Took gas readings: 31 369255
B 2 308243
W 188123
H.C. 214071
Time 635769
10/31/2014

- John 1-W 11/02/2014
- Received turnover from Chris.
 - Worked on C-303 until 3 pm. with Church.
 - Patched V-584 ~~recycle~~ recycle line.
 - The line to V-584 from C-303 is plugged @ the valve. Running with the bypass open.
 - Made rounds through the plants. S.W. Corner out side of Gamma sump pump running constantly. unplugged the float switch. Will show them tomorrow. Tomorrow?
 - Heated up C-303 and started stripping the batch.

XXXXX Lowering the set point on the spray master tank. IT is going out the high level over flow causing the pond at waste water to have high PH.

- Filled the County water tank
- Pulled V-584 sample and logged it in @ the lab.

- Chris 2w 11/02/2014
- Received turnover from John

~~★ Tax was not running 9:45 pm no alarm tried to restart would not VFD Fail~~

- Call Anthony, Scott about E/I looking at it Scott asked me to call Church and Christian No answer left message on church phone

- Made Plant Check round

- Scott and Anthony said no one have to

... in Delta II, the water H.P. pressure
... 100 temp
... shut down

... low temp alarm
... to start TOX VFD fail

... stopped stripping with air in S&L
... V405 is full

... boiler down add chemicals to Boiler
... tank

... blew off short column in at N₂ Tank
... with smoke everywhere - calling attention

... for air liquid number
... with liquid air & a tech in the

... The column purge is staying on
... should vent for 60 seconds - down to 89 in of water

... is leaking into Dike
... M330 sample is in lab

... back from the N₂ Gen area - the air
... - I got the water headlight

... Generator shut down again

John

1st

11/03/2014

- Flare back
- online officially

... is back on line.

... replaced the coupling in the spare pump.

... the spray master.

... county water tank.

... adding a 490 II in addition.

... a battery in our golf cart.

... cut V-554.

... a batch from V-441.

Appendix E

FOIA EXEMPT

ORCEMENT CONFIDENTIAL

put down Dm water supply pump in the

ATTACHMENT E**New Operating Scenarios**

MCPU	Process	Equip ID	Use	Category	Control Device
04	Tab 1	04-02R101	reactor	Alternative operating scenario	68H002

Note: Beginning in September 2014 this equipment was no longer used to manufacture Tabanol 1. All AlphaBeta (Unit ID #4) Tabanol 1 production was shut down. The reactor was fitted for Regal 2B final production which is reported on the Pharma MACT. An operational flexibility notification - form 502(b)(10) was submitted to the department in September 2014.

Subpart UU LDAR Report

ATTACHMENT F

SEMIANNUAL COMPLIANCE REPORT FOR MON LDAR PROGRAM**REPORTING PERIOD:****1 July to 31 December 2014****63.1039 Report Requirement b (1)**

b(1)(i) VALVES: Unit ID's 04, 05, 06, 07, 08, 09	
Monitoring Dates:	See Reporting Period.
No. Valves Monitored During Period:	702
No. Valves Leaking During Period:	0
No. of Valves - Leak Not Repaired:	0
Monitored Valve Leakage Rate:	0.0%
Required Monitoring Frequency:	Annually

b(1)(ii) PUMPS: All Subpart FFFF Units							
Date Monitored:	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Total
No. Pumps Monitored During Period:	54	54	60	52	52	52	324
No. Pumps Leaking During Period:	0	0	0	0	0	0	0
No. Pumps Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Pumps for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(iii) CONNECTORS (In accordance with 63.2480(b)(4), the facility will comply with 63.1029)
No reporting required.

b(1)(iv) AGITATORS All Subpart FFFF Units							
Date Monitored:	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Total
No. Agitators Monitored During Period:	24	24	24	21	21	21	135
No. Agitators Leaking During Period:	0	0	0	0	0	0	0
No. Agitators Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Agitators for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(v) COMPRESSORS

No compressors in HAP service.

(b)(2) Delay of Repair.

No. of Delay of Repair Events: 0

(b)(3) Valve Subgrouping Information of 63.1025(b)(4)(I)

Not Applicable

(b)(4) PRESSURE RELIEF DEVICES GV SERVICE

Date of Test: None

Concentration [ppm]: NA

(b)(5) Initiation of monthly monitoring for valves:

Not Applicable

(b)(6) Quality improvement program for pumps

Not required due to low leak rate for pumps.

(b)(7) Alternative means of emission limitations.

Pressure test report attached.

(b)(8) No units with later compliance dates at the facility.

**FID MONITORING DETAIL
ADDENDUM 1**

ATTACHMENT F

FID MONITORING DETAILS BY AREA

Jul-14									
Unit ID	Tested	Pumps			Tested	Agitators			
		New Leaks	Missed	Unsafe		New Leaks	Missed	Unsafe	
04 - Alpha/Beta	3	0	0	0	4	0	0	0	
05 - Gamma	13	0	0	0	7	0	0	0	
06 - Delta	11	0	0	0	13	0	0	0	
04 - Epsilon	6	0	0	0	0	0	0	0	
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0	
Totals	54	0	0	0	24	0	0	0	
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%		
Aug-14									
Unit ID	Tested	Pumps			Tested	Agitators			
		New Leaks	Missed	Unsafe		New Leaks	Missed	Unsafe	
04 - Alpha/Beta	3	0	0	0	4	0	0	0	
05 - Gamma	13	0	0	0	6	0	0	0	
06 - Delta	11	0	0	0	14	0	0	0	
04 - Epsilon	6	0	0	0	0	0	0	0	
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0	
Totals	54	0	0	0	24	0	0	0	
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%		
Sep-14									
Unit ID	Tested	Pumps			Tested	Agitators			
		New Leaks	Missed	Unsafe		New Leaks	Missed	Unsafe	
04 - Alpha/Beta	9	0	0	0	4	0	0	0	
05 - Gamma	13	0	0	0	6	0	0	0	
06 - Delta	11	0	0	0	14	0	0	0	
04 - Epsilon	6	0	0	0	0	0	0	0	
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0	
Totals	60	0	0	0	24	0	0	0	
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%		
Oct-14									
Unit ID	Tested	Pumps			Tested	Agitators			
		New Leaks	Missed	Unsafe		New Leaks	Missed	Unsafe	
04 - Alpha/Beta	1	0	0	0	1	0	0	0	
05 - Gamma	13	0	0	0	6	0	0	0	
06 - Delta	11	0	0	0	14	0	0	0	
04 - Epsilon	6	0	0	0	0	0	0	0	
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0	
Totals	52	0	0	0	21	0	0	0	
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%		

Nov-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	1	0	0	0	1	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	52	0	0	0	21	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Dec-14

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	1	0	0	0	1	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	52	0	0	0	21	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

ATTACHMENT F
ADDENDUM 2
LEAK LOG

LEAK LOG FOR MON REPORT JULY 1, 2014 - DECEMBER 31, 2014							
Leak Date	Component	Equipment	Initial Reading (ppm)	First Attempt Date	Final Repair Date	Final Reading (ppm)	Comments
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:

no leaks were monitored and reported for the 2nd half 2014 on all MON equipment

no visual leaks were monitored and reported for the 2nd half 2014 on all MON equipment

ATTACHMENT F**ADDENDUM 3
PRESSURE TEST REPORT**

Annual pressure testing of storage tanks and process equipment completed during this reporting period are included in the following attachment. Any storage tank that was not tested during the second half of 2014 was tested and reported on the previous semi-annual.

Process equipment is being checked using method 21, and the components checked are included in Subpart UU report. Pressure testing is not being used as a compliance method for process equipment.

PRESSURE TEST REPORT FOR PERIOD JULY 1, 2014 TO DECEMBER 31, 2014

Eq. ID	No. Tests	No. Fails	Facts Re DoR	Date(s)
02TK102	2	0	main TF	8/15/14 + 10/9/14
02TK103	2	0	main TF	8/12/14 + 10/9/14
02TK104	2	0	main TF	8/15/14 + 10/9/14
02TK210	26	0	main TF	weekly
02TK254	2	0	main TF	8/20/14 + 10/9/14
02TK256	2	0	main TF	8/20/14 + 10/9/14
03R101	0	0	a/b	n/a
03TK301	2	0	main TF	8/20/14 + 10/9/14
03TK310	2	0	main TF	8/19/14 + 10/9/14
03TK311	0	0	main TF	out of service
03TK361b	2	0	main TF	8/12/14 + 10/9/14
03V309	2	0	main TF	8/19/14 + 10/9/14
03V310	2	0	main TF	8/19/14 + 10/9/14
03V358	2	0	a/b	8/13/2014
03V369	2	0	main TK farm	8/19/14 + 10/9/14
04R402	1	0	gamma	8/3/2014
04R403	1	0	gamma	8/3/2014
04R406	1	0	gamma	8/3/2014
04TK410	0	0	gamma	8/12/14 + 10/9/14
04TK411	26	0	main TK farm	weekly
04TK433	0	0	main TK farm	8/12/14 + 10/9/14
05TK501	0	0	delta TF	8/12/14 + 10/9/14
05TK505	0	0	delta TF	8/12/14 + 10/9/14
05TK507	0	0	delta TF	8/12/14 + 10/9/14
05TK516	0	0	delta TF	8/12/14 + 10/9/14
05TK519	26	0	main TK farm	weekly

see note 1

note 1:

03R101 is not run under pressure during Tabanol 1 production (MON process)

Method 21 was performed on all valves in regards to this equipment

FOIA EXEMPT
Appendix E

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

MS. MARY PEYTON WALL
BUREAU OF AIR
SCDHEC
2600 BULL STREET
COLUMBIA, SC 29201

2. Article Number
(Transfer from service label)

7012 2920 0000 8126 8453

PS Form 3811, July 2013

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature **DO NOT RELEASE**

Jessica Berry ☐ Agent
☐ Address:

B. Received by (Printed Name) *Jessica Berry* C. Date of Delivery *9-8-2014*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☒ Certified Mail® ☐ Priority Mail Express™
- ☐ Registered ☒ Return Receipt for Merchandise
- ☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

**U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT**
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

7012 2920 0000 8126 8453

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent To
MARY PEYTON WALL BUREAU OF AIR SCDHEC
Street, Apt. No.,
or PO Box No. 2600 BULL STREET
City, State, ZIP+4 COLUMBIA, SC 29201

PS Form 3800, August 2006

See Reverse for Instructions

3VDA 16



888 Woodstock Rd Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

August 28, 2015

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

Enclosed is the first-half 2015 semi-annual report for 3V inc. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair', with a stylized flourish at the end.

Scott McNair
VP of Plant Management



888 Woodstock Rd Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

August 28, 2015

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

Enclosed is the first-half 2015 semi-annual report for 3V inc. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5123 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair', written in a cursive style.

Scott McNair
VP of Plant Management

SUBPART FFFF (MON) COMPLIANCE REPORT

Semiannual Report

for

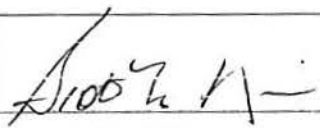
3V, Inc.

Covering
Jan 1, 2015
through
June 30, 2015

Submitted on August 28, 2015

MON Compliance Report

63.2520 (e) (1) Company Name and Address	
Company Name	3V, Inc.
Street Address	888 Woodstock Road
City, State Zip Code	Georgetown, SC 29440
Mailing Address:	888 Woodstock Road
City, State Zip Code	Georgetown, SC 29440
Contact Person	Vince Centioni
Title	Environmental Manager
Telephone	843.520.0128
Fax	843.546.0007

63.2520 (e) (2) Certification of Truth, Accuracy, and Completeness	
Last Name	McNair
First Name	Scott
Title	Plant Manager
Telephone	843-520-0146
Fax	843-546-0007
I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.	
Name (signed)	
Name (printed)	Scott McNair
Date	08/28/2015

63.2520 (e) (3) Date of Report; Reporting Period	
Date Report Submitted:	August 28, 2015
Start of Reporting Period:	Jan 1, 2015
End of Reporting Period:	June 30, 2015

TABLE OF CONTENTS

1. INTRODUCTION
2. MON COMPLIANCE REPORT RESPONSES
3. ATTACHMENTS
 - A. Excess Emission Events from Start Up, Shutdowns or Malfunctions
 - B. Information On Deviations For Systems Without CMS
 - C. Information On Deviations On Systems With CMS
 - D. Copies of Operating Logs of Sources Using CMS for Compliance (68H002 Thermal Oxidizer).
 - E. Operating Scenarios
 - F. Report for Subpart UU (LDAR Summary).

1. INTRODUCTION

3V Inc. is subject to the Miscellaneous Organic NESHAP 40 CFR Part 63 Subpart FFFF for organic chemical manufacturing processes in unit ID's 04, 05, 06 and 07. The facility is also subject to the Pharmaceutical MACT 40 CFR Part 63 Subpart GGG in unit ID 04. The purpose of this notification is to document the facility's compliance status with Subpart FFFF.

This report has been formatted by following the periodic report section of Subpart FFFF located in 63.2520 (e). Specific CFR citations are listed in their order with a response to each. In some cases it was convenient to prepare the information requested in a separate report. In these cases that report is provided as an attachment.

2. MON COMPLIANCE REPORT RESPONSES

63.2520 (e) (4) *Records showing that for each SSM during which excess emissions occurred, procedures specified in the SSMP were followed. Documentation of actions taken that were not consistent with SSMP. Brief description of each malfunction.*

Provided in Attachment A is a list SSM events that may have resulted in excess emissions. This list comprises all events involving a malfunction or shutdown of control devices. The facility SSM Plan requires operators to reduce production activity to minimize emissions during control device service interruption until the unit can be restarted or back-up systems can be put in place.

During the reporting period there were minor planned shutdowns for maintenance activity. Throughout these shutdowns General Services ignited the back unit 68H001-Flare and/or continued to run 68H002-TOx to remain in compliance with regulatory temperature limits and MACT standards. Detailed maintenance records are attached. See Table 63.2520(e)(5)(iii)(L).

63.2520 (e) (5) (i) *Statement indicating there were no deviations from any emission limit, operating limit, or work standard during the reporting period.*

Not Applicable.

63.2520 (e) (5) (ii) *For each deviation from an emission limit, operating limit, and work standard that occurred at an affected source where CMS is NOT used to comply with same provide the following....*

63.2520 (e) (5) (ii) (A) *Total operating time of the affected source during the reporting period,*

Total operating time during reporting period was 3432 hours.

63.2520 (e) (5) (ii) (B) *Information on number, duration, and cause of deviations, and corrective action taken for deviations including periods of SSM.*

No deviations from systems where CMS is NOT used to comply with regulations.

63.2520 (e) (5) (ii) (C) *Copies of operating logs of processes with batch vents from batch*

operations on day(s) during which deviation occurred for those deviations from emission limits, operating limits, and work standards, occurring at an affected source where CMS is NOT used to comply with same. Include periods of SSM.

Not applicable.

63.2520 (e) (5) (iii) *For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, include the following information:*

63.2520 (e) (5) (iii) (A) *Dates and times that each CMS was inoperative for sources where CMS is used to comply with emission limits and operating limits.*

See Attachment B for CMS downtime details.

63.2520 (e) (5) (iii) (B) *Date, time, and duration that each CMS was out-of-control.*

No periods of CMS out-of-control during this reporting period.

63.2520 (e) (5) (iii) (C) *Date and time that each deviation started and stopped, and information on whether the deviation occurred during SSM, for deviations at sources where CMS is used to comply with emission limits and operating limits.*

See Attachment C.

63.2520 (e) (5) (iii) (D) *Summary of the total duration of deviations occurring during the reporting period, and total duration as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

There have been no deviations from the temperature limits listed in Table 63.2520 (e) (5) (iii) (I) below from the cryogenic condensers. The thermal oxidizer temperature was below the limit in Table 63.2520 (e) (5) a total of 18.5 hrs or 0.44% of the total operating time.

63.2520 (e) (5) (iii) (E) *Breakdown of total duration of deviations into startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes for deviations at sources where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (E) Breakdown of Total Duration of Deviations into Various Categories for 68H002.					
Startup	Shutdown	Control Equipment Problems	Process Problems	Other Known Causes	Other Unknown Causes
0	0	0	0	0	0

63.2520 (e) (5) (iii) (F) *Summary of total duration of CMS downtime during reporting period, and as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (F)				
Summary of Total Duration of CMS Downtime.				
Device	Monitor	Parameter	Duration of downtime [hours]	Percentage of downtime [%]
68H001	68TT6001	Temperature	1.1	0.04
68H002	68TT300_3	Temperature	1.1	0.04
01CE01 & 01CE02	01 TI 26 & 01 TI 27	Temperature	1.1	0.04

63.2520 (e) (5) (iii) (G) *Identification of each HAP known to be in the emission stream from each source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (G) HAP's in Emission Streams.	
Device ID using CMS	List of Known HAP's in Emission Stream
68H002	Acetaldehyde, Acrylamide, Acrylonitrile, Ethyl acrylate, Methanol, Vinyl Acetate, Xylene
01CE01 & 01CE02	Methylene Chloride

63.2520 (e) (5) (iii) (H) Brief description of process units.

The facility consists of batch chemical manufacturing process units, wastewater treatment units, storage tanks, and air pollution control equipment for the reduction of organic HAP's including: two thermal oxidizer units (68H001 and 68H002) and a cryogenic condenser system, 01CE01, 01CE02. All batch process vents containing methylene chloride are routed to the cryogenic condenser. For the process vents, the cryogenic condenser has been determined to be a process condenser and the vents are collectively Group 2. For storage tanks the cryogenic condenser has been determined to be a control device. There are no continuous process sources.

The affected source includes the MCPU's listed in the table that follows.

Table 63. 2520 (e) (5) (iii) (H) Chemical Manufacturing Processes Operating during the reporting period.	
MCPU	Chemical Manufacturing Processes
04 – Alpha/Beta/Epsilon Plant	Extrapin, Tabanol K, Tabanol NA, Tabanol G, Tabanol 5, Tabanol E, and Tabanol P.
05 – Gamma Plant	Tabanol 5
06 – Delta 1 Plant	Efram CR, Tabanol 1 and Tabanol 2
07 – Delta 2 Plant	Tabanol 5

63.2520 (e) (5) (iii) (I) Brief description of CMS:

There were three control devices used by the facility for compliance with Subpart FFFF during the reporting period. These include flare 68H001, thermal oxidizer 68H002 and the cryogenic condensation system 01CE01 and 01CE02. Flare 68H001 serves as a back up to the thermal oxidizer for downtime due to malfunctions and routine scheduled maintenance. The table that follows lists the continuous monitoring for each device.

Table 63.2520 (e) (5) (iii) (I) Parametric Monitoring Required for Control Devices.				
Device	Parameter	Basis for Parameter	Limit	Basis for Limit
68H001	Combustion Temperature	63.988(c)(1)	1464 °F	Average temperature from test
68H002	Combustion Temperature	63.988(c)(1)	1476 °F	Average temperature from test
01CE01	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation
01CE02	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation

63.2520 (e) (5) (iii) (J) *Date of latest CMS certification or audit:*

See table that follows.

Table 63.2520 (e) (5) (iii) (J) CMS Certification/Audit Dates.		
Device ID	Monitoring Equipment	Date of Latest CMS Certification/Audit
68H002 Thermal Oxidizer	68TT300-3	Calibrated 05/19/2015
68H001 Ground Flare	68TT6001	Calibrated 05/19/2015
01CE01 Cryogenic Condenser	01TI 26	Calibrated 08/10/2015
01CE02 Cryogenic Condenser	01TI 27	Calibrated 08/10/2015

63.2520 (e) (5) (iii) (K) *Operating logs of processes with vents from batch processes for each day of a deviation where CMS is used to comply with deviations from emission limits and operating limits:*

See Attachment D

63.2520 (e) (5) (iii) (L) *Operating day average values of monitored parameters for each day during which there was a deviation for sources where CMS is used to comply with emission limits and operating limits:*

Not applicable.

Table 63.2520 (e) (5) (iii) (L) Operating Day Average Values for Each Exceedance Date.			
Date	Device	Monitor	Average, °F
No deviations from the temperature limit specified in Table 63.2520 (e) (5) (iii) (I)			

63.2520 (e) (5) (iv) *Records associated with each calculation required by 63.2525 (e) that exceeds an applicable HAP usage or emissions threshold:*

Emission calculations used to designate Group 2 process vents in the NOCS. No Group 2 process vents relying on HAP usage demonstration.

63.2520 (e) (6) *Statement indicating no periods of out-of-control CEMS:*

Not applicable. Facility does not use CEMS for compliance with Subpart FFFF.

63.2520 (e) (7) *New operating scenarios not already submitted:*

See Attachment E for new operating scenarios since last periodic report. Emissions from this source were included in the construction permit application for the installation of the cryogenic condensation system (CP-F3).

63.2520 (e) (8) *Records of process units added to a PUG; records of primary product re-determinations:*

Not applicable.

63.2520 (e) (9) *Records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part, and subpart F of 40 CFR 65:*

Information requested in Subpart SS is provided in sections 63.2520 (e)(5)(iii) of this report. See Attachment F for Subpart UU report.

63.2520 (e) (10) *Process changes:*

Not applicable.

ATTACHMENT A

Excess Emission Events from Start Up, Shutdowns, or Malfunction

Fail Date	Fail Time	Duration Hours	Unit	SSMP Followed?	Cause – Corrective Action
1/11/2015	0400	2.0	68H002	Yes	Shut down to replace DFA insert. Flare still online.
2/6/2015	1015	0.2	68H002	Yes	High temp. Flare online
2/10/2015	2230	16.7	68H002	Yes	High level knock out pot. Valved in Flare. Drained knock out pot. Restarted.
2/18/2015	1935	2.5	68H002	Yes	DFA full of liquid high inlet temp. Drain restarted
2/21/2015	2224	0.5	68H002	Yes	DFA plugged and sock plugged
2/23/2015	0000	1.0	68H002	Yes	High inlet temp. Restarted after inlet temp was lowered. Flare online
2/23/2015	1530	0.2	68H002	Yes	Combustion high temp. Reset and Restarted Flare online
2/27/2015	1425	0.3	68H002	Yes	Combustion high temp. Reset and Restarted Flare online
3/4/2015	1325	0.3	68H002	Yes	Combustion high temp. Reset and Restarted Flare online
3/4/2015	1645	0.2	68H002	Yes	Combustion high temp. Reset and Restarted Flare online
3/9/2015	1815	0.2	68H002	Yes	Combustion high temp. Reset and Restarted Flare online
3/24/2015	0150	8.0	68H002	Yes	Combustion high temp. Reset and Restarted Flare online. E/I changed temp probe.
3/30/2015	1416	2.0	68H002	Yes	Combustion high temp. Reset and Restarted Flare online
4/7/2015	1440	0.2	68H002	Yes	Combustion high temp. Reset and Restarted Flare online
4/8/2015	1400	0.3	68H002	Yes	Flame failure. Cleaned photo eye. Restarted
4/9/2015	1015	0.3	68H002	Yes	Flame failure. Restarted. Flare online.
4/9/2015	1300	0.3	68H002	Yes	Flame failure. Restarted. Flare online.
4/9/2015	1720	0.5	68H002	Yes	Flame failure. Restarted. Flare online.
4/11/2015	1000	0.3	68H002	Yes	Flame failure. Restarted. Flare online.
4/11/2015	0000	0.3	68H002	Yes	Flame failure. Restarted. Flare online.
4/11/2015	1320	12.5	68H002	Yes	Flame failure. Cleaned photo eye. Restarted
4/12/2015	0128	0.5	68H002	Yes	High flame arrestor inlet temp. Restarted. Reset combustion blower.
4/14/2015	0548	0.2	68H002	Yes	High combustion temp. Reset Restarted.
4/14/2015	1245	0.2	68H002	Yes	Flame failure. Restarted. Flare online.
4/14/2015	1650	0.2	68H002	Yes	Flame failure. Restarted. Flare online.
4/14/2015	2308	0.2	68H002	Yes	Flame failure. Restarted. Flare online. Cleaned flame detector

4/17/2015	1610	0.2	68H002	Yes	Flame failure. Restarted. Flare online.
4/17/2015	1755	1.0	68H002	Yes	VFD failure. Reset restarted.
4/20/2015	1300	0.2	68H002	Yes	High combustion temp. Reset Restarted.
4/21/2015	1235	0.5	68H002	Yes	Flame failure. Reset restarted
4/21/2015	1310	1.2	68H002	Yes	VFD failure. Reset restarted.
4/21/2015	1457	0.5	68H002	Yes	VFD failure. Reset restarted.
4/22/2015	1730	0.2	68H002	Yes	Flame failure. Reset restarted
4/25/2015	1510	0.2	68H002	Yes	Flame failure. Reset restarted
4/25/2015	1825	0.2	68H002	Yes	Flame failure. Reset restarted
4/25/2015	1910	0.2	68H002	Yes	Flame failure. Reset restarted
4/26/2015	1945	0.3	68H002	Yes	VFD failure. Restarted.
4/26/2015	2245	2.5	68H002	Yes	Flame failure and VFD failure. Cleaned back DFA. Reset and restarted.
5/1/2015	0200	0.5	68H002	Yes	High combustion temp. Reset Restarted.
5/1/2015	2220	0.4	68H002	Yes	Flame failure. Reset restarted
5/4/2015	1807	0.2	68H002	Yes	Flame failure. Reset restarted
5/4/2015	1840	0.2	68H002	Yes	Flame failure. Restarted. Flare online.
5/6/2015	0000	0.2	68H002	Yes	Flame failure. Restarted. Flare online.
5/6/2015	0010	1.1	68H002	Yes	Flame failure. Restarted. Flare online.
5/6/2015	1524		68H001	Yes	Planned flare seal replacement. High co Tox online. No venting, plants aware unit down. Maintenance WO.
5/9/2015	0545	0.5	68H002	Yes	Flame failure. Restarted. Cleaned eye.
5/10/2015	0620	0.2	68H002	Yes	Flame failure. Restarted. Cleaned eye.
5/10/2015	0718		68H001	Yes	Tox on line. Fan noise. Shut down flare.
5/11/2015	0850	0.2	68H002	Yes	Flame failure. Reset restarted
5/12/2015	0500	0.6	68H002	Yes	Flame failure. Restarted. Cleaned eye.
5/12/2015	0820	0.4	68H002	Yes	Flame failure. Reset restarted
5/12/2015	0910	0.5	68H002	Yes	High inlet temp. Flare online. Restarted
5/12/2015	1300	0.3	68H002	Yes	High inlet temp. Flare online. Restarted
5/12/2015	1525	2.0	68H002	Yes	T 300-3 bad. Replaced temp transmitter.
5/12/2015	1900		68H001	Yes	Planned shut down ground flare. Tox online.
5/16/2015	2015	0.5	68H002	Yes	Flame failure. Reset restarted
5/16/2015	2309	0.5	68H002	Yes	Flame failure. Reset restarted. Flare online.
5/17/2015	0100	0.8	68H002	Yes	Flame failure. Restarted. Cleaned eye.
5/19/2015	1258	0.5	68H002	Yes	High temp. Restarted.
5/19/2015	1330	8.0	68H002	Yes	Calibrating TT. Planned shutdown. Flare online.
5/21/2015	1205	0.5	68H002	Yes	Flame failure. Reset restarted. Flare online.
5/21/2015	1330	0.2	68H002	Yes	Flame failure. Reset restarted. Flare online.
5/21/2015	1818	0.3	68H002	Yes	Low combustion air pressure. Restarted.
5/22/2015	1615	1.0	68H002	Yes	Shut down for E&I to calibrate temp TT.
5/22/2015	1700	0.3	68H002	Yes	Flame failure. Reset restarted
5/24/2015	1140	0.3	68H002	Yes	Low combustion air pressure. Restarted.
5/27/2015	0915	0.3	68H002	Yes	Flame failure. Reset restarted
5/27/2015	1325	0.2	68H002	Yes	Flame failure. Reset restarted
5/28/2015	0930	0.5	68H002	Yes	Valve change. Flare online.
5/28/2015	1440	0.2	68H002	Yes	Flame failure. Reset restarted
5/28/2015	1620	0.4	68H002	Yes	Flame failure. Clean eye. Reset restarted
5/28/2015	1930	0.3	68H002	Yes	Flame failure. Clean eye. Reset restarted

5/28/2015	2050	0.5	68H002	Yes	Flame failure. Clean eye. Reset restarted
5/28/2015	2230	0.1	68H002	Yes	Flame failure. Clean eye. Reset restarted
5/28/2015	2310	0.4	68H002	Yes	Flame failure. Adjusted air flow.
6/8/2015	1920	0.5	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/8/2015	2105	0.1	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/10/2015	1645	0.1	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/11/2015	1345	0.5	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/11/2015	1940	0.1	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/11/2015	2207	0.1	68H002	Yes	Flame failure. Reset restarted
6/12/2015	0625	0.1	68H002	Yes	Flame failure. Reset restarted
6/13/2015	0640	0.2	68H002	Yes	Flame failure. Reset restarted
6/13/2015	0655	0.1	68H002	Yes	Flame failure. Reset restarted
6/15/2015	0530	0.2	68H002	Yes	Flame failure. Reset restarted
6/15/2015	1115	0.1	68H002	Yes	High flame arrestor inlet temp. Restarted. Reset combustion blower.
6/16/2015	1613	0.3	68H002	Yes	Flame failure. Reset restarted
6/17/2015	0230	0.2	68H002	Yes	Flame failure. Reset restarted
6/17/2015	0350	0.2	68H002	Yes	Flame failure. Reset restarted
6/18/2015	0840	0.3	68H002	Yes	Flame failure. Reset restarted
6/18/2015	1245	0.2	68H002	Yes	Flame failure. Reset restarted
6/18/2015	1300	0.2	68H002	Yes	Flame failure. Reset restarted
6/18/2015	2359	0.1	68H002	Yes	Flame failure. Reset restarted
6/19/2015	1040	0.3	68H002	Yes	Flame failure. Reset restarted
6/19/2015	1440	0.2	68H002	Yes	Flame failure. Reset restarted
6/19/2015	1500	0.3	68H002	Yes	Flame failure. Reset restarted
6/23/2015	1150	0.5	68H002	Yes	Flame failure. Reset restarted
6/24/2015	0210	0.3	68H002	Yes	High temp. Reset restarted. Asked plants to slow vent flow.
6/24/2015	2145	0.7	68H002	Yes	Flame failure. Reset restarted
6/28/2015	1130	0.2	68H002	Yes	Flame failure. Reset restarted
6/29/2015	0845	0.3	68H002	Yes	Flame failure. Reset restarted
6/30/2015	0300	0.2	68H002	Yes	Flame failure. Reset restarted
6/30/2015	0840	0.2	68H002	Yes	Flame failure. Reset restarted
6/30/2015	1255	0.2	68H002	Yes	Flame failure. Reset restarted
01CE01 & 01CE02					
1/8/2015	1610	0.5	Polaris	Yes	High tank level. Steamed line. Restarted
1/8/2015	1800	0.8	Polaris	Yes	High tank level. Steamed line. Restarted.
2/25/2015	0030	1.2	Polaris	Yes	Fan full of liquid. Pumped liquid. Restarted
3/5/2015	1300	0.5	Polaris	Yes	Power outage. Restarted locally.
3/14/2015	1122	1.3	Polaris	Yes	Fan failure. Remove ice from top valve. Restarted
4/24/2015	0045	0.5	Polaris	Yes	No flow. Freeze. Restarted.
4/26/2015	0000	2.5	Polaris	Yes	Valve malfunction (XV 064). Called E&I. Found air line section damage. Repaired & Restarted.

Notes:

Omitted from the Attachment A. SSMP list are a number of minor events involving the cryogenic condenser (duration < 0.5 hr) that did not effect emissions. The system is passive and contains a large reserve of refrigeration capacity. Even when the unit shuts down vent gases continue to pass through the system at temperatures well below the limit.

ATTACHMENT B**Detailed Information On CMS Downtime**

Control Device	Monitor ID	Date	Time	Duration, hrs
68H002	68TT300_3	3/12/2015	09:57	1.1
68H001	68TT6001	3/12/2015	09:57	1.1
01CE01 & 01CE02	TT-26 TT-27	3/12/2015	09:57	1.1

Note:

Due to power outage RS view communication was lost to the server; as a consequence all data logging for the TOX, Flare, and Cryogenic condenser stopped recording data points. During this time frame no significant TOX, Flare, and Cryo startup, shutdown, malfunctions was recorded in operational logs. The thermal oxidizer vent temperature stayed > 1500 degrees F, and the Cryogenic condenser vent temperature remained < -165 degrees F during this CMS downtime PER General Services field monitoring.

Copies of Operating Logs of Sources Using CMS for Compliance

ATTACHMENT D

Received Turnover from Charles
 3/11/15
 AHD
 Allow Down Boilers Run Test on B&K H2O Addit Burn
 Got Results on V586 C89 Passed X-Tuning to WTP
 Shut Down Stepper X-Feed V405 to V584 Drain P/O
 Running X-Fe from V401 to V584 C89
 Filled V580 Sample but in LAB took BMR
 Got Results on V580 Valid 83X = 315 94H = 86 135m = 3 258m = 2
 Will need to get Approval from Vane 200 Days
 Caught up on work Fuel Build and BWT of B&K
 Allow system 2 line clear closed Alarm 1414
 Hatched up C303 + sampling 290
 Church 03/12/2015 1st
 Received Turnover from R-11
 Do not make any waste fuel X-Feeds, Trying
 to build a level in V-381 7,000 to 8,000 gal
 to be shipped out.
 Use golf carts in shop any more, Per Mike D.
 Resampled V-310 & logged in lab
 results 859cm = 3 83X = 230 135m = 6
 94H = 30
 Took Gas readings
 Filled out housekeeping form
 Changed out sump pump @ gate house
 scale (Confined space)
 pulled cond. fan motor, HVAE
 main curteen, 1/4 hp 830 RPM
 pulled V-584 & logged in lab
 V-584 passed X-Feed to WTP.
 83X high on V-310 X-Feeding to WTP.
 Shift pump off @ 3:45
 Installed new cond. fan motor curteen
 Also added 27

3/12/15

4-20-40

7/22/2015 8:41:59 AM

Page: 1

3V Inc.

WORK ORDER - NORMAL

Work Order: 113134

Description: Cryogenic Condenser modbus signal

Asset ID:	Model:	Sch Date: 3/5/2015
Asset:	Serial No:	Add Date: 3/5/2015 3:20:03 PM
Procedure: LOCK-OUT/TAG-OUT AND SAFETY INS	Location:	Priority: 0
Master WO ID	Building: cryo	Shift:
Requested By: cwahley	Floor:	Room: 1
Telephone: Ext: 119	Elec Line:	Supervisor:
Request ID: 7258	Asset ShutDn: <input checked="" type="checkbox"/> Plant ShutDn: <input checked="" type="checkbox"/>	Status: Completed
Warranty:		Skill:
		Assigned To: AL JOHNSON

Labor:	Assigned To	Cost ID	Est Hrs	Rem Hrs	Reg	Over	Double	Other	Date
Craft Description	Labor Description								
AL JOHNSON	<input checked="" type="checkbox"/>		1.00	0.00					/ /

Task: 1 ID: 1A SAFETY SECTION Description: Lock out Tag Out Tech findings

Safety: ☒ Text: Planner, Maint or E&I Supervisor, or Technical Services Manager:Is this work covered by an RFC? ☐ No ☐ Yes RFC#:

Explain to the technician(s) what change(s) are covered by the RFC.

To be completed by the millwright:

Is this a direct change out? Same make, model, manufacturer, etc. ☐ Yes ☐ No

If no and the change is not specified in the RFC covering this job, an RFC must be generated. Do not proceed with the work

Mobile/Lift Equipment required: Is operator(s) trained on mobile/lift equipment? ☐ Yes ☐ NoForklift ☐ Yes ☐ No Man Lift ☐ Yes ☐ No Lull ☐ Yes ☐ NoBoom Truck ☐ Yes ☐ No Scissors Lift ☐ Yes ☐ No Crane ☐ Yes ☐ No

To Be Completed By Plant Supervision Prior to Work Initiation:

General:

Plant Running ☐ Yes ☐ No Other Work Adjacent to this Work ☐ Yes ☐ NoIsolated Work Area With Barricade ☐ Yes ☐ NoUnderground Hazards Identified/Marked? ☐ Yes ☐ No

Hazards: (if Yes, list Hazards in/on/around immediate area)

Flammables/Hazardous Chemicals Within _____ FT

Electrical ☐ No Yes: _____ Chemical ☐ No Yes: _____Pneumatic ☐ No Yes: _____ Mechanical ☐ No Yes: _____Temperature ☐ No Yes: _____

If permits are required, record permit number:

Line Break ☐ No Yes: _____ LO/TO ☐ No Yes: _____Hot work ☐ No Yes: _____ Confined Space ☐ No Yes: _____

Plant Supervisor Responsible for Completing Safety Instructions:

Print Name

Signature Required

Technical Findings:

Comments: Troubleshoot - cryogenic condenser control box (no modbus signal)

Procedure Comments: Problem in network, correctly.

No new operating scenarios					
MCPU	Process	Equip ID	Use	Category	Control Device

New Operating Scenarios

ATTACHMENT E

Subpart UU LDAR Report

ATTACHMENT F

SEMIANNUAL COMPLIANCE REPORT FOR MON LDAR PROGRAM**REPORTING PERIOD:****1 January to 31 July 2015****63.1039 Report Requirement b (1)**

b(1)(i) VALVES: Unit ID's 04, 05, 06, 07, 08, 09	
Monitoring Dates:	See Reporting Period.
No. Valves Monitored During Period:	112
No. Valves Leaking During Period:	0
No. of Valves - Leak Not Repaired:	0
Monitored Valve Leakage Rate:	0.0%
Required Monitoring Frequency:	Annually

b(1)(ii) PUMPS: All Subpart FFFF Units							
Date Monitored:	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Total
No. Pumps Monitored During Period:	53	53	51	51	51	57	316
No. Pumps Leaking During Period:	0	0	0	0	0	0	0
No. Pumps Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Pumps for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(iii) CONNECTORS (In accordance with 63.2480(b)(4), the facility will comply with 63.1029)
No reporting required.

b(1)(iv) AGITATORS All Subpart FFFF Units							
Date Monitored:	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Total
No. Agitators Monitored During Period:	20	21	20	20	20	21	122
No. Agitators Leaking During Period:	0	0	0	0	0	0	0
No. Agitators Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Agitators for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(v) COMPRESSORS

No compressors in HAP service.

(b)(2) Delay of Repair.

No. of Delay of Repair Events: 0

(b)(3) Valve Subgrouping Information of 63.1025(b)(4)(I)

Not Applicable

(b)(4) PRESSURE RELIEF DEVICES GV SERVICE

Date of Test: None

Concentration [ppm]: NA

(b)(5) Initiation of monthly monitoring for valves:

Not Applicable

(b)(6) Quality improvement program for pumps

Not required due to low leak rate for pumps.

(b)(7) Alternative means of emission limitations.

Pressure test report attached.

(b)(8) No units with later compliance dates at the facility.

ATTACHMENT F
ADDENDUM 1
FID MONITORING DETAIL

FID MONITORING DETAILS BY AREA

Jan-15					Agitators			
Unit ID	Tested	Pumps			Tested	New Leaks	Missed	Unsafe
		New Leaks	Missed	Unsafe				
04 - Alpha/Beta	2	0	0	0	1	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	13	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	53	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	
Feb-15					Agitators			
Unit ID	Tested	Pumps			Tested	New Leaks	Missed	Unsafe
		New Leaks	Missed	Unsafe				
04 - Alpha/Beta	2	0	0	0	1	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	53	0	0	0	21	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	
Mar-15					Agitators			
Unit ID	Tested	Pumps			Tested	New Leaks	Missed	Unsafe
		New Leaks	Missed	Unsafe				
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	
Apr-15					Agitators			
Unit ID	Tested	Pumps			Tested	New Leaks	Missed	Unsafe
		New Leaks	Missed	Unsafe				
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

May-15

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Jun-15

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	6	0	0	0	1	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	57	0	0	0	21	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

21

ATTACHMENT F
ADDENDUM 2
LEAK LOG

LEAK LOG FOR MON REPORT JAN 1, 2015 - JUNE 30, 2015							
Leak Date	Component	Equipment	Initial Reading (ppm)	First Attempt Date	Final Repair Date	Final Reading (ppm)	Comments
2/17/2015	methylene chloride	Unit ID: 04-Gamma P-510 for V-511	visual	2/17/2015	2/17/2015	visual	Maintenance immediatley fixed seal - WO# 112831

ATTACHMENT F**ADDENDUM 3
PRESSURE TEST REPORT**

Annual pressure testing of storage tanks and process equipment completed during this reporting period are included in the following attachment. Any storage tank that was not tested during the first half of 2015 will be tested and reported on the next semi-annual report.

Process equipment is being checked using method 21, and the components checked are included in Subpart UU report. Pressure testing is not being used as a compliance method for process equipment.

PRESSURE TEST REPORT FOR PERIOD JAN 1, 2015 TO JUNE 30, 2015

Eq. ID	No. Tests	No. Fails	Facts Re DoR	Date
02TK210	26	0	main TF	weekly
03C305	1	0	a/b	5/28/2015
03D131	1	0	a/b	5/27/2015
03FP301	1	0	a/b	1/5/2015
03FP303	1	0	a/b	1/5/2015
03R101	1	0	a/b	01/05/15
03R151	1	0	a/b	5/27/2015
03R301	1	0	a/b	1/5/15
03R302A	1	0	a/b	1/5/15
03R305	1	0	a/b	1/6/15
03R307	1	0	a/b	1/5/2015
03R308	1	0	a/b	1/5/2015
03SE301	1	0	a/b	1/5/15
03SE302	1	0	a/b	1/5/15
03V323	1	0	a/b	1/6/2015
03V324A	1	0	a/b	1/6/2015
03V375	1	0	a/b	5/28/2015
03V376	1	0	a/b	5/28/2015
03VA301	1	0	a/b	1/6/2015
04R402	1	0	gamma	2/24/2015
04R403	1	0	gamma	2/11/2015
04R406	1	0	gamma	3/6/2015
04TK411	26	0	main TK farm	weekly
05C504	1	0	epsilon	1/2/2015
05C505	1	0	epsilon	1/2/2015
05TK519	26	0	main TK farm	weekly
05VA534	1	0	epsilon	1/2/2015
05V577	1	0	epsilon	1/2/2015
05V578	1	0	epsilon	1/2/2015
05V579	1	0	epsilon	1/2/2015



888 Woodstock St. Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

February 12, 2016

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

*2015
2016*

Enclosed is the second-half ~~2016~~ semi-annual report for 3V Sigma USA. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaire@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair'.

Scott McNair
VP of Plant Management



888 Woodstock St. Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

February 12, 2016

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

Enclosed is the second-half ^{Vic. 2015} 2016 semi-annual report for 3V Sigma USA. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair'.

Scott McNair
VP of Plant Management

SUBPART FFFF (MON) COMPLIANCE REPORT

Semiannual Report

for

3V Sigma USA

Covering

July 1, 2015

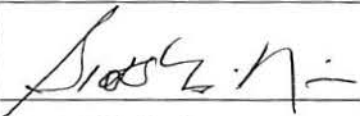
through

December 31, 2015

Submitted on February 12, 2016

MON Compliance Report

63.2520 (e) (1) Company Name and Address	
Company Name	3V, Sigma USA.
Street Address	888 Woodstock Street
City, State Zip Code	Georgetown, SC 29440
Mailing Address:	888 Woodstock Street
City, State Zip Code	Georgetown, SC 29440
Contact Person	Vince Centioni
Title	Environmental Manager
Telephone	843.520.0128
Fax	843.546.0007

63.2520 (e) (2) Certification of Truth, Accuracy, and Completeness	
Last Name	McNair
First Name	Scott
Title	Plant Manager
Telephone	843-520-0146
Fax	843-546-0007
I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.	
Name (signed)	
Name (printed)	Scott McNair
Date	02/12/2016

63.2520 (e) (3) Date of Report; Reporting Period	
Date Report Submitted:	February 12, 2015
Start of Reporting Period:	July 1, 2015
End of Reporting Period:	December 31, 2015

TABLE OF CONTENTS

1. INTRODUCTION
2. MON COMPLIANCE REPORT RESPONSES
3. ATTACHMENTS
 - A. Excess Emission Events from Start Up, Shutdowns or Malfunctions
 - B. Information On Deviations For Systems Without CMS
 - C. Information On Deviations On Systems With CMS
 - D. Copies of Operating Logs of Sources Using CMS for Compliance (68H002 Thermal Oxidizer).
 - E. Operating Scenarios
 - F. Report for Subpart UU (LDAR Summary).

1. INTRODUCTION

3V Sigma USA is subject to the Miscellaneous Organic NESHAP 40 CFR Part 63 Subpart FFFF for organic chemical manufacturing processes in unit ID's 04, 05, 06 and 07. The facility is also subject to the Pharmaceutical MACT 40 CFR Part 63 Subpart GGG in unit ID 04. The purpose of this notification is to document the facility's compliance status with Subpart FFFF.

This report has been formatted by following the periodic report section of Subpart FFFF located in 63.2520 (e). Specific CFR citations are listed in their order with a response to each. In some cases it was convenient to prepare the information requested in a separate report. In these cases that report is provided as an attachment.

2. MON COMPLIANCE REPORT RESPONSES

63.2520 (e) (4) *Records showing that for each SSM during which excess emissions occurred, procedures specified in the SSMP were followed. Documentation of actions taken that were not consistent with SSMP. Brief description of each malfunction.*

Provided in Attachment A is a list SSM events that may have resulted in excess emissions. This list comprises all events involving a malfunction or shutdown of control devices. The facility SSM Plan requires operators to reduce production activity to minimize emissions during control device service interruption until the unit can be restarted or back-up systems can be put in place.

During the reporting period there was a 2 week planned production shutdown for maintenance on 7/27/2015 - 8/9/2015, 2 day planned shutdown for Thanksgiving 11/26/2015 - 11/27/2015, and a 1 week planned shutdown for Xmas 12/24/15 - 12/31/2015. At various times during the facility planned shutdowns process control devices were shutdown for preventive maintenance and service. On 11/5/2015 there was a planned server shutdown for a required software upgrade, thereby stopping TOx and Flare CMS for 4.4 hrs. The software upgrade did not affect CMS to the Cryogenic condenser. All controlled devices were operating within performance test daily average limits. On 7/28/15 and 8/4/15 the thermal oxidizer deviated slightly below daily average limits (< 1476 F), these deviations were not reported since all production activity was shutdown, therefore no venting occurred to the control device (no flow). Detailed maintenance records are attached. See Table 63.2520(e)(5)(iii)(L).

63.2520 (e) (5) (i) *Statement indicating there were no deviations from any emission limit, operating limit, or work standard during the reporting period.*

Not Applicable.

63.2520 (e) (5) (ii) *For each deviation from an emission limit, operating limit, and work standard that occurred at an affected source where CMS is NOT used to comply with same provide the following....*

63.2520 (e) (5) (ii) (A) *Total operating time of the affected source during the reporting period,*

Total operating time during reporting period was 3312 hours.

63.2520 (e) (5) (ii) (B) *Information on number, duration, and cause of deviations, and corrective action taken for deviations including periods of SSM.*

No deviations from systems where CMS is NOT used to comply with regulations.

63.2520 (e) (5) (ii) (C) *Copies of operating logs of processes with batch vents from batch*

operations on day(s) during which deviation occurred for those deviations from emission limits, operating limits, and work standards, occurring at an affected source where CMS is NOT used to comply with same. Include periods of SSM.

Not applicable.

63.2520 (e) (5) (iii) *For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, include the following information:*

63.2520 (e) (5) (iii) (A) *Dates and times that each CMS was inoperative for sources where CMS is used to comply with emission limits and operating limits.*

See Attachment B for CMS downtime details.

63.2520 (e) (5) (iii) (B) *Date, time, and duration that each CMS was out-of-control.*

No periods of CMS out-of-control during this reporting period.

63.2520 (e) (5) (iii) (C) *Date and time that each deviation started and stopped, and information on whether the deviation occurred during SSM, for deviations at sources where CMS is used to comply with emission limits and operating limits.*

See Attachment C.

63.2520 (e) (5) (iii) (D) *Summary of the total duration of deviations occurring during the reporting period, and total duration as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

There have been no deviations from the temperature limits listed in Table 63.2520 (e) (5) (iii) (I) below from the cryogenic condensers. The thermal oxidizer temperature was not below the limit in Table 63.2520 (e) (5) during production operating time in this reporting period.

63.2520 (e) (5) (iii) (E) *Breakdown of total duration of deviations into startup, shutdown, control equipment problems, process problems, other known causes, and*

unknown causes for deviations at sources where CMS is used to comply with emission limits and operating limits.

See table that follows.

Table 63.2520 (e) (5) (iii) (E) Breakdown of Total Duration of Deviations into Various Categories for 68H002.					
Startup	Shutdown	Control Equipment Problems	Process Problems	Other Known Causes	Other Unknown Causes
0	0	0	0	0	0

63.2520 (e) (5) (iii) (F) *Summary of total duration of CMS downtime during reporting period, and as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (F)				
Summary of Total Duration of CMS Downtime.				
Device	Monitor	Parameter	Duration of downtime [hours]	Percentage of downtime [%]
68H001	68TT6001	Temperature	4.4	0.13
68H002	68TT300_3	Temperature	4.4	0.13
01CE01 & 01CE02	01 TI 26 & 01 TI 27	Temperature	0.0	0.00

63.2520 (e) (5) (iii) (G) *Identification of each HAP known to be in the emission stream from each source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (G) HAP's in Emission Streams.	
Device ID using CMS	List of Known HAP's in Emission Stream
68H002	Acetaldehyde, Acrylamide, Acrylonitrile, Ethyl acrylate, Methanol, Vinyl Acetate, Xylene
01CE01 & 01CE02	Methylene Chloride

63.2520 (e) (5) (iii) (H) Brief description of process units.

The facility consists of batch chemical manufacturing process units, wastewater treatment units, storage tanks, and air pollution control equipment for the reduction of organic HAP's including: two thermal oxidizer units (68H001 and 68H002) and a cryogenic condenser system, 01CE01, 01CE02. All batch process vents containing methylene chloride are routed to the cryogenic condenser. For the process vents, the cryogenic condenser has been determined to be a process condenser and the vents are collectively Group 2. For storage tanks the cryogenic condenser has been determined to be a control device. There are no continuous process sources.

The affected source includes the MCPU's listed in the table that follows.

Table 63. 2520 (e) (5) (iii) (H) Chemical Manufacturing Processes Operating during the reporting period.	
MCPU	Chemical Manufacturing Processes
04 – Alpha/Beta/Epsilon Plant	Extrapin, Tabanol K, Tabanol NA, Tabanol G, Tabanol 5, Tabanol E, and Tabanol P.
05 – Gamma Plant	Tabanol 5
06 – Delta 1 Plant	Efram CR, Tabanol 1 and Tabanol 2
07 – Delta 2 Plant	Tabanol 5

63.2520 (e) (5) (iii) (I) Brief description of CMS:

There were three control devices used by the facility for compliance with Subpart FFFF during the reporting period. These include flare 68H001, thermal oxidizer 68H002 and the cryogenic condensation system 01CE01 and 01CE02. Flare 68H001 serves as a back up to the thermal oxidizer for downtime due to malfunctions and routinescheduled maintenance. The table that follows lists the continuous monitoring for each device.

Table 63.2520 (e) (5) (iii) (I) Parametric Monitoring Required for Control Devices.				
Device	Parameter	Basis for Parameter	Limit	Basis for Limit
68H001	Combustion Temperature	63.988(c)(1)	1464 °F	Average temperature from test
68H002	Combustion Temperature	63.988(c)(1)	1476 °F	Average temperature from test
01CE01	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation
01CE02	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation

63.2520 (e) (5) (iii) (J) *Date of latest CMS certification or audit:*

See table that follows.

Table 63.2520 (e) (5) (iii) (J) CMS Certification/Audit Dates.		
Device ID	Monitoring Equipment	Date of Latest CMS Certification/Audit
68H002 Thermal Oxidizer	68TT300-3	Calibrated 05/19/2015
68H001 Ground Flare	68TT6001	Calibrated 05/19/2015
01CE01 Cryogenic Condenser	01TI 26	Calibrated 08/10/2015
01CE02 Cryogenic Condenser	01TI 27	Calibrated 08/10/2015

63.2520 (e) (5) (iii) (K) *Operating logs of processes with vents from batch processes for each day of a deviation where CMS is used to comply with deviations from emission limits and operating limits:*

See Attachment D

63.2520 (e) (5) (iii) (L) *Operating day average values of monitored parameters for each day during which there was a deviation for sources where CMS is used to comply with emission limits and operating limits:*

Not applicable.

Table 63.2520 (e) (5) (iii) (L) Operating Day Average Values for Each Exceedance Date.			
Date	Device	Monitor	Average, °F
No operating day average values violated			

Note: From 07/27/2015 – 8/9/2015 all production operations was shut down for planned maintenance. No venting.

63.2520 (e) (5) (iv) *Records associated with each calculation required by 63.2525 (e) that exceeds an applicable HAP usage or emissions threshold:*

Emission calculations used to designate Group 2 process vents in the NOCS. No Group 2 process vents relying on HAP usage demonstration.

63.2520 (e) (6) *Statement indicating no periods of out-of-control CEMS:*

Not applicable. Facility does not use CEMS for compliance with Subpart FFFF.

63.2520 (e) (7) *New operating scenarios not already submitted:*

See Attachment E for new operating scenarios since last periodic report. Emissions from this source were included in the construction permit application for the installation of the cryogenic condensation system (CP-FJ).

63.2520 (e) (8) *Records of process units added to a PUG; records of primary product re-determinations:*

Not applicable.

63.2520 (e) (9) *Records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part, and subpart F of 40 CFR 65:*

Information requested in Subpart SS is provided in sections 63.2520 (e)(5)(iii) of this report. See Attachment F for Subpart UU report.

63.2520 (e) (10) *Process changes:*

Not applicable.

ATTACHMENT A**Excess Emission Events from Start Up, Shutdowns, or Malfunction**

Fail Date	Fail Time	Duration Hours	Unit	SSMP Followed?	Cause – Corrective Action
6/8/2015	1920	0.5	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/8/2015	2105	0.1	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/10/2015	1645	0.1	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/11/2015	1345	0.5	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/11/2015	1940	0.1	68H002	Yes	Flame failure. Clean eye. Reset restarted
6/11/2015	2207	0.1	68H002	Yes	Flame failure. Reset restarted
6/12/2015	0625	0.1	68H002	Yes	Flame failure. Reset restarted
6/13/2015	0640	0.2	68H002	Yes	Flame failure. Reset restarted
6/13/2015	0655	0.1	68H002	Yes	Flame failure. Reset restarted
6/15/2015	0530	0.2	68H002	Yes	Flame failure. Reset restarted
6/15/2015	1115	0.1	68H002	Yes	High flame arrestor inlet temp. Restarted. Reset combustion blower.
6/16/2015	1613	0.3	68H002	Yes	Flame failure. Reset restarted
6/17/2015	0230	0.2	68H002	Yes	Flame failure. Reset restarted
6/17/2015	0350	0.2	68H002	Yes	Flame failure. Reset restarted
6/18/2015	0840	0.3	68H002	Yes	Flame failure. Reset restarted
6/18/2015	1245	0.2	68H002	Yes	Flame failure. Reset restarted
6/18/2015	1300	0.2	68H002	Yes	Flame failure. Reset restarted
6/18/2015	2359	0.1	68H002	Yes	Flame failure. Reset restarted
6/19/2015	1040	0.3	68H002	Yes	Flame failure. Reset restarted
6/19/2015	1440	0.2	68H002	Yes	Flame failure. Reset restarted
6/19/2015	1500	0.3	68H002	Yes	Flame failure. Reset restarted
6/23/2015	1150	0.5	68H002	Yes	Flame failure. Reset restarted
6/24/2015	0210	0.3	68H002	Yes	High temp. Reset restarted. Asked plants to slow vent flow.
6/24/2015	2145	0.7	68H002	Yes	Flame failure. Reset restarted
6/28/2015	1130	0.2	68H002	Yes	Flame failure. Reset restarted
6/29/2015	0845	0.3	68H002	Yes	Flame failure. Reset restarted
6/30/2015	0300	0.2	68H002	Yes	Flame failure. Reset restarted
6/30/2015	0840	0.2	68H002	Yes	Flame failure. Reset restarted
6/30/2015	1255	0.2	68H002	Yes	Flame failure. Reset restarted
7/9/2015	2330	0.2	68H002	Yes	Flame failure. Started ground flare. Reset restart
7/10/2015	0400	0.2	68H002	Yes	Flame failure. Started ground flare. Reset restart
7/10/2015	1505	0.3	68H002	Yes	Flame failure. Started ground flare. Cleaned photo eye. Reset. Restart
7/14/2015	0615	0.25	68H002	Yes	Flame failure. Started ground flare. Cleaned photo eye. Reset. Restart
7/14/2015	2253	0.4	68H002	Yes	High combustion temp. Reset, restart.
7/15/2015	1020	0.2	68H002	Yes	High combustion temp. Changed blower coupling.
7/16/2015	1025	0.5	68H002	Yes	High comb. temp. Reset, restart. Flare on.

7/16/2015	1210	0.2	68H002	Yes	High comb. temp. Reset, restart. Flare on.
7/16/2015	1430	0.2	68H002	Yes	High comb. temp. Reset, restart. Flare on.
7/16/2015	1530	0.2	68H002	Yes	High comb. temp. Reset, restart. Flare on.
7/20/2015	1215	0.2	68H002	Yes	High comb. temp. Reset, restart. Flare on.
7/20/2015	1900	0.4	68H002	Yes	High comb. temp. Reset, restart. Flare on.
7/22/2015	0320	1.0	68H002	Yes	High comb. temp. Reset, restart. Flare on.
8/4/2015	2311	0.65	68H002	Yes	Process gas low. Started ground flare. Plant shut down.
8/4/2015	2350	3.0	68H002	Yes	Reset restarted. Ground flare on.
8/5/2015	0800	15.8	68H002	Yes	Plant shut down. Flare on line. Planned shutdown. Restarted Tox.
8/13/2015	1910	0.25	68H002	Yes	High comb. temp. Reset, restart.
8/23/2015	0830	0.8	68H002	Yes	Changed filter socks. Flare online.
8/26/2015	0930	0.2	68H002	Yes	High comb. temp. Reset, restart. Flare on.
8/27/2015	0910	0.2	68H002	Yes	Flame failure. Reset restarted.
8/28/2015	0240	0.2	68H002	Yes	Flame failure. Reset restarted.
8/28/2015	0540	0.25	68H002	Yes	Flame failure. Reset restarted.
8/28/2015	1020	0.4	68H002	Yes	Flame failure. Reset restarted.
8/28/2015	1430	0.2	68H002	Yes	Flame failure. Reset restarted.
8/29/2015	0050	0.2	68H002	Yes	Flame failure. VFD fault. Reset restarted.
9/2/2015	0525	0.8	68H002	Yes	High flame arrestor inlet temp. Restarted. Reset combustion blower. R305 fluid.
9/2/2015	1105	0.3	68H002	Yes	High comb. temp. Reset, restart.
9/2/2015	1820	9.0	68H002	Yes	Flame failure. Flare on line. TOX would not restart.
9/3/2015	1820	1.0	68H002	Yes	Flame failure. Air providing switch. Reset. Restarted.
9/4/2015	1845	0.5	68H002	Yes	VFD fault. Reset blower. Flare on.
9/4/2015	1933	0.2	68H002	Yes	High inlet DFA temp. Reset. Restart. Flare on.
9/4/2015	2000	0.1	68H002	Yes	Flame arrestor high inlet temp. Flare on. Reset restarted.
9/4/2015	2100	0.25	68H002	Yes	Flame failure. Cleaned detector. Restarted.
9/5/2015	0340	0.2	68H002	Yes	Flame failure. Restarted.
9/5/2015	1910	0.6	68H002	Yes	High comb. temp. Reset, restart.
9/5/2015	2045	1.0	68H002	Yes	High comb. temp. Reset, restart.
9/6/2015	2200	3.0	68H002	Yes	High comb. temp. Reset, restart.
9/8/2015	1558	0.2	68H002	Yes	Flame failure. Cleaned detector. Restarted.
9/8/2015	1715	0.25	68H002	Yes	Flame failure. Restarted. Flare on.
9/9/2015	0330	0.3	68H002	Yes	Flame failure. Restarted. Flare on.
9/9/2015	0400	0.25	68H002	Yes	Flame failure. Restarted. Flare on.
9/9/2015	0420	0.25	68H002	Yes	Flame failure. Restarted. Flare on.
9/9/2015	0900	0.2	68H002	Yes	Flame failure. Restarted. Flare on.
9/9/2015	1538	0.2	68H002	Yes	High combustion temp. Reset, restart.
9/11/2015	1005	0.25	68H002	Yes	Damper failure. E&I working. Restarted.
9/11/2015	1045	3.75	68H002	Yes	E&I replaced dilution air damper.
9/15/2015	1620	0.3	68H002	Yes	E&I replaced dilution air damper.
9/16/2015	0145	0.2	68H002	Yes	High combustion temp. Reset, restart.
9/17/2015	1730	1	68H002	Yes	High combustion temp. Reset, restart. Flare on. Flame failure.

9/18/2015	1048	0.2	68H002	Yes	High combustion temp. Reset, restart. Flare on. Flame failure.
9/21/2015	2057	0.2	68H002	Yes	High combustion temp. Reset, restart. Flare on. Flame failure.
9/24/2015	0205	0.2	68H002	Yes	Flame failure. Restarted. Flare on.
9/28/2015	1800	0.3	68H002	Yes	VED fault, flame failure. Restarted.
9/29/2015	0110	0.2	68H002	Yes	Flame failure. Restarted. Flare on.
10/8/2015	0900	1.0	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/8/2015	1500	0.5	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/9/2015	1600	0.25	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/9/2015	1900	0.5	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/9/2015	2300	0.75	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/10/2015	0230	0.6	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/10/2015	0735	0.3	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/10/2015	1610	0.2	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/13/2015	1750	0.3	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/13/2015	1924	3.0	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/14/2015	0430	1.0	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/16/2015	0630	1.0	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/17/2015	1349	0.25	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/20/2015	0325	1.0	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/20/2015	1730	3.5	68H002	Yes	High flame arrestor temp. Restart. Flare on.
10/20/2015	2305	0.2	68H002	Yes	High flame arrestor temp. Restart. Flare on.
10/21/2015	0350	0.3	68H002	Yes	High flame arrestor temp. Restart. Flare on.
10/21/2015	1200	0.5	68H002	Yes	High flame arrestor temp. Restart. Flare on.
10/21/2015	1700	1.0	68H002	Yes	High flame arrestor temp. Restart. Flare on.
10/21/2015	2300	0.25	68H002	Yes	High flame arrestor temp. Restart. Flare on.
10/22/2015	0700	0.25	68H002	Yes	High flame arrestor temp. Change contactor to comb. Blower.
10/22/2015	1450	0.2	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/23/2015	0240	0.3	68H002	Yes	High flame arrestor temp. Restart. Flare on.
10/26/2015	1925	0.3	68H002	Yes	High temp. Flame failure. Restart. Flare on.
10/26/2015	2020	3.5	68H002	Yes	High combustion temp. Restarted. Flare on.
10/28/2015	1049	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
10/28/2015	1415	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
10/29/2015	1300	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
10/30/2015	1630	0.2	68H002	Yes	VFD fault. Reset. Restarted
10/30/2015	1935	0.8	68H002	Yes	Process blower stripped. Restarted fixed.
11/3/2015	1130	1	68H002	Yes	High combustion temp. Restarted. Flare on.
11/3/2015	1300	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
11/3/2015	1502	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
11/4/2015	1455	0.75	68H002	Yes	High combustion temp. Restarted. Flare on.
11/5/2015	2110	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
11/6/2015	1300	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
11/7/2015	2300	0.75	68H002	Yes	High temp. Flame failure. Restart. Flare on.
11/9/2015	2215	1.0	68H002	Yes	High temp. Restarted. Flare on.
11/11/2015	1115	0.2	68H002	Yes	High temp. Restarted. Flare on.
11/19/2015	1330	0.5	68H002	Yes	High temp. Restarted. Flare on.
11/21/2015	0045	0.2	68H002	Yes	Low comb air pressure. Reset & restarted.
11/23/2015	2030	0.5	68H002	Yes	High knock out pot level. Drained.

12/15/2015	0838	0.4	68H002	Yes	High combustion temp. Restarted. Flare on.
12/16/2015	0335	0.2	68H002	Yes	High combustion temp. Restarted. Flare on.
12/16/2015	1550	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
12/17/2015	0940	2.0	68H002	Yes	High combustion temp. Restarted. Flare on.
12/18/2015	1030	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
12/19/2015	1630	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
12/19/2015	1750	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
12/20/2015	0628	0.2	68H002	Yes	High combustion temp. Restarted. Flare on.
12/22/2015	2239	1.0	68H002	Yes	Combustion high inlet temp. Flare on. Changed insert. Restarted
12/22/2015	2352	0.25	68H002	Yes	Combustion high inlet temp. Restarted.
12/23/2015	0350	0.2	68H002	Yes	Flame fail. Cleaned. Restarted.
12/23/2015	1130	13.0	68H002	Yes	High combustion temp. Restarted. Flare on.
12/29/2015	0800	6.0	68H002	Yes	New HMI. Flare online.
01CE01 & 01CE02					
7/2/2015	0705	11.0	Polaris	Yes	Replaced motor and fan blower - planned.
7/3/2015	1200	3.0	Polaris	Yes	Low air pressure. Valve would not open. Restart. Repair serviced.
8/19/2015	0650	0.5	Polaris	Yes	XV-06 valve malfunction - Reset Restart.
8/19/2015	2045	3.0	Polaris	Yes	XV-06 valve malfunction - Reset Restart.
8/21/2015	0205	0.5	Polaris	Yes	XV-06b valve malfunction - Powered down 10 sec. Reset restart
8/28/2015	0655	1.0	Polaris	Yes	XV-6b valve fault - Powered down. Restart.
8/29/2015	1200	0.5	Polaris	Yes	XV-6b valve fault - Powered down. Restart.
8/30/2015	0720	1.0	Polaris	Yes	XV-6b valve fault - Powered down. Restart.
8/31/2015	1222	1.0	Polaris	Yes	XV-06b valve malfunction - Reset Restart.
9/2/2015	0940	1.0	Polaris	Yes	Blower shut down. Drained. Reset Restart.
10/9/2015	0430	2.0	Polaris	Yes	Blower run indicator. Restarted.
10/9/2015	2100	0.5	Polaris	Yes	#02 pump fault. Reset blower. Restarted.
10/12/2015	0915	1.0	Polaris	Yes	Blower shut down. Drained. Reset Restart.
10/29/2015	0700	0.5	Polaris	Yes	Blower shut down. Drained. Reset Restart.
11/1/2015	0915	0.8	Polaris	Yes	No blower flow. Frozen ice. Reset. Restart.
11/2/2015	0650	3.0	Polaris	Yes	VX-12 valve malfunction. Replaced broken air line. E&I work order.
12/1/2015	0650	0.6	Polaris	Yes	No flow to blower. Restarted.

Notes:

Omitted from the Attachment A. SSMP list are a number of minor events involving the cryogenic condenser (duration < 0.5 hr) that did not effect emissions. The system is passive and contains a large reserve of refrigeration capacity. Even when the unit shuts down vent gases continue to pass through the system at temperatures well below the limit.

ATTACHMENT B**Detailed Information On CMS Downtime**

Control Device	Monitor ID	Date	Time	Duration, hrs
68H002	68TT300_3	11/05/2015	10:00	4.4
68H001	68TT6001	11/05/2015	10:00	4.4

Note:

The server was shut down due to a planned software update. Thermal oxidizer control device never exceeded temperature limits. See SSMP, maintenance records, and operator logs.

ATTACHMENT C**Information On Deviations On Systems With CMS**

Table 63.2520 (e) (5) (iii) (C) Thermal Oxidizer 68H002 Start/End Date and Times of Temperature Deviations.					
Date of Deviation	Deviation Start Time	Deviation End Time	Duration, hrs	Cause	SSM?
No deviations from the temperature limit specified in Table 63.2520 (e) (5) (iii) (I)					

Table 63.2520 (e) (5) (iii) (C) 01CE01 & 01CE02 Cryogenic Condenser Start/End Date and Times of Temperature Deviations.					
Date of Deviation	Deviation Start Time	Deviation End Time	Duration	Cause	SSM?
No deviations from the temperature limit specified in Table 63.2520 (e) (5) (iii) (I)					

Copies of Operating Logs of Sources Using CMS for Compliance

ATTACHMENT D

The Leslie Tower on screen, again -
 9:30 AM, A Apple/Beta, lines are visible and
 I talked to Christian about this.
 Destroyed all of our data, all killers.

FOIA EXEMPT
Appendix E

ENFORCEMENT CONFIDENTIAL

Chris
07/15
Come in for Church
Jump ~~at~~ 10:30 to Apple Bate - Value Back the way
Gamma Plant is using
Plant 1. L.B. 10:15
at 15:00

1st

Phil
7/28/15
3rd
Received invoice from Charles
Bouton in Gamma NOT using #3 Ch: like shut down 3A comp 3A cycle.
Shut down K-601 Gamma down
Pickup trash mats bolts shit of string - like a washid down
Just I could do at night.

Chuck
7/28/2015
Please get with parts room - need a P/O #
for 5 Router #3 Miller - FLT-222A 5ea.
A week ago - this was charged - get with Eric.
Run down the stripper dial again - Center
was added to C303 pad today. I already
rinsed it out once. Will be doing hot work -
in this over tomorrow.
to put down more absorbent - still has
oil leak. Can't shut it down - Gamma on air head
used in parts room with security & them
to get mill belts.
Gamma - worked 1st + 2nd shift - using oil/lhrs -
both of them - for now.

- Received turnover from Church
- Removed Bolts in C303 may way west side to put packing on used
- Air Ligade called off called them back
- They walk me how to reset & restarted N2 sensors
- Logged in weekly water samples
- Got Lab some DI water they said ok, it we start RO unit Wed morning
- Still starty V360
- Filled Co water tanks

Chris
08/04/2015
2nd

- Shut down equipment. Morning scheduled
- Tested X-fer switch for EG-003. Generator came on, but X-fer switch did not work
- Pulled V-360 sample & logged in lab
- Power came back on restarted box
- down 07:00 to 09:30
- Started #5 oiler & service pumps
- Started cooling tower back up. P-003 vibrating back shut back off & locked
- out running P-001 & P-007
- Sending V-360 to water.
- pulled middle man-way C-303 installed
- packing plate & added packing on top
- 40 gals. put man-way back on.

08/05/2015
Chris Church
1st

- Received turnover from Charles
- Worked with and Hot Work Permits
- Working on Q383
- looked at Q383 four pump
- Fixed Manifold
- Stop Flowing down sections per WSTP
- they will call when we can start if broken

08/04/2015
Chris Church
3rd shift

- Received turnover from Charles.
- Talked to Chris about hot oil burner down - 12" 212"
- I restocked P418A pump + restocked the burner - in low fire, still temp - back in range
- Had the oxidizer - go down - PRC DPAH
- GAS low - would not restart - I got Thad H.
- to give me a hand at ground flare - I lit it.
- lot of ground flare - back on line.
- Have 2 + 1 fix problem today - I got EX-DIRECT
- back at the former, replaced burner don insert
- I put the hot oil burner back in, set at 385°
- Finished scrubbing V360 to work EL-1.1'
- I let them know - finished
- I tried to reset the OXIDIZER - again at 08:40
- it said flame failure - I reset it + replaced
- it - back on line at 08:43 AM - Also, left the
- Ground Flare - online
- The flame detector needs - replacing. (Cullen)
- Arrived in
- Made Plant - work throughout - Thad Hayes
- In Belds - All looks - OK.
- Filed the County Water tank.

Chris Church
Need w/o
for #85 insert
to give me a hand at ground flare - I lit it.
lot of ground flare - back on line.
Have 2 + 1 fix problem today - I got EX-DIRECT
back at the former, replaced burner don insert
I put the hot oil burner back in, set at 385°
Finished scrubbing V360 to work EL-1.1'
I let them know - finished
I tried to reset the OXIDIZER - again at 08:40
it said flame failure - I reset it + replaced
it - back on line at 08:43 AM - Also, left the
Ground Flare - online
The flame detector needs - replacing. (Cullen)
Arrived in
Made Plant - work throughout - Thad Hayes
In Belds - All looks - OK.
Filed the County Water tank.

NOTE - Mr. 7. Under Test in room 2. 1111.

- Added 1 Bucket Forward Black To Cooling Tower Pump Basin
- Ran 115 + on Cooling Tower H2O
- Changed both pressure gauges on process + cooling H2O pump's middle pipe
- Knocked 1000 spider webs on electric + diesel pump bases + swept them
- Sought 1000 spider webs on electric + diesel pump bases + swept them
- Filled out Housekeeping 1st
- Gave WTR V360 number it's going out SL 15.2
- A Resonance I put Resonance in LTR
- Got Results on V586 M351 14.14 93.00 = 34.72 WTR Full
- Back to normal
- Sw. taking 1000 spider webs turn off + back on + sw. hand pressure
- Received Turnover From Chris
- 11-5-15
- 1st

- Shut down E303
- The chiller change set pt. to 14
- West DTA - stem out No purge good to go
- * - East DTA at 74 on line
- Keys and phone
- Unlocked Ice Admin Build - give good
- Filled Co. Water tank
- Pulled V586 Logged in Lab
- Air ligand made Del
- Cost as much as a new pump
- capover section for that pump but pretty
- all new part out - Sherwin had
- Section and enter that are dead - Pull
- Put Diagram Pump back to setler - Beater
- When it Pinks room w/ Bels to get Fellers

MICROSOFT EXCEL - ENFORCEMENT (CONFIDENTIAL) - Appendix E - CONFIDENTIAL																																
File Edit View Insert Format Tools Data Window Help																																
. 10 - B I U 11/5/2015 5:00:00 PM 100%																																
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AI	AC	AI	AE	AI
22	11/5/2015 04:55:17	301	0	0				0.8	0				1.0		-13.0		65.2	100.0		32.0		0.0		164.0		-25.0		11.3		0.0		
23	11/5/2015 05:10:17	358	0	0				0.7	0				1.0		-13.0		65.4	100.0		32.0		0.0		163.0		-25.0		11.3		0.0		
24	11/5/2015 05:25:17	416	0	0				0.7	0				1.0		-13.0		65.6	100.0		32.0		0.0		163.0		-25.0		11.3		0.0		
25	11/5/2015 05:40:17	476	0	0				0.7	0				1.0		-13.0		65.4	100.0		32.0		0.0		164.0		-25.0		11.3		0.0		
26	11/5/2015 05:55:17	531	0	0				0.7	0				1.0		-13.0		65.5	100.0		32.0		0.0		165.0		-25.0		11.3		0.0		
27	11/5/2015 06:10:17	586	0	0				0.7	0				1.0		-13.0		64.8	100.0		32.0		0.0		163.0		-25.0		11.3		0.0		
28	11/5/2015 06:25:17	641	0	0				0.7	0				1.0		-13.0		64.9	100.0		32.0		0.0		162.0		-25.0		11.3		0.0		
29	11/5/2015 06:40:17	698	0	0				0.8	0				1.0		-13.0		65.0	100.0		32.0		0.0		160.0		-25.0		11.3		0.0		
30	11/5/2015 06:55:17	757	0	0				0.8	0				1.0		-13.0		65.3	100.0		32.0		0.0		163.0		-25.0		11.3		0.0		
31	11/5/2015 07:10:17	816	0	0				0.9	0				1.0		-13.0		65.2	100.0		32.0		0.0		161.0		-25.0		11.3		0.0		
32	11/5/2015 07:25:17	873	0	0				1.0	0				1.0		-13.0		65.3	100.0		32.0		0.0		163.0		-25.0		11.3		0.0		
33	11/5/2015 07:40:17	929	0	0				1.0	0				1.0		-13.0		65.6	100.0		32.0		0.0		164.0		-25.0		11.3		0.0		
34	11/5/2015 07:55:17	988	0	0				1.0	0				1.0		-13.0		66.0	100.0		32.0		0.0		166.0		-25.0		11.3		0.0		
35	11/5/2015 08:10:17	103	0	0				1.1	0				1.0		-13.0		66.2	100.0		32.0		0.0		166.0		-25.0		11.3		0.0		
36	11/5/2015 08:25:16	862	0	0				1.1	0				1.0		-13.0		66.2	100.0		32.0		0.0		163.0		-25.0		11.3		0.0		
37	11/5/2015 08:40:16	850	0	0				1.2	0				1.0		-13.0		66.3	100.0		32.0		0.0		166.0		-25.0		11.3		0.0		
38	11/5/2015 08:55:16	911	0	0				1.1	0				1.0		-13.0		66.6	100.0		32.0		0.0		165.0		-25.0		11.3		0.0		
39	11/5/2015 09:10:16	969	0	0				1.1	0				1.0		-13.0		67.1	100.0		32.0		0.0		166.0		-25.0		11.3		0.0		
40	11/5/2015 09:25:17	26	0	0				1.2	0				1.0		-13.0		67.5	100.0		32.0		0.0		166.0		-25.0		11.3		0.0		
41	11/5/2015 09:40:17	85	0	0				1.2	0				1.0		-13.0		67.6	100.0		32.0		0.0		166.0		-25.0		11.2		0.0		
42	11/5/2015 09:55:17	637	0	0				1.1	0				1.0		-13.0		67.8	100.0		32.0		0.0		163.0		-25.0		11.2		0.0		
43	11/5/2015 10:00:03	533	E0	0				1.1	0				1.0		-13.0		67.9	100.0		32.0		0.0		165.0		-25.0		11.2		0.0		
44	11/5/2015 14:23:55	429	B0	U0	U			0.0	U0	U			0.0	U		0.0	U	0.0	U	0.0	U		0.0	U	0.0	U	0.0	U	0.0	U	0.0	U
45	11/5/2015 14:38:56	241	0	0				1.1	0				1.0		67.0		71.4	100.0		32.0		0.0		167.0		-25.0		11.2		0.0		
46	11/5/2015 14:53:56	513	0	0				1.2	0				1.0		25.0		71.5	100.0		32.0		0.0		165.0		-25.0		11.2		0.0		
47	11/5/2015 15:07:34	877	E0	0				1.1	0				1.0		52.0		71.6	100.0		32.0		0.0		167.0		-25.0		11.2		0.0		
48	11/5/2015 15:30:50	942	B0	U0	U			1.1	0				1.0		49.0		71.0	100.0		0.0	U		0.0	U	0.0	U	0.0	U	0.0	U	0.0	U
49	11/5/2015 15:45:51	21	0	0				1.2	0				1.0		59.0		71.2	100.0		32.0		0.0		165.0		-25.0		11.2		0.0		
50	11/5/2015 16:00:51	109	0	0				1.1	0				1.0		81.0		71.1	100.0		32.0		0.0		164.0		-25.0		11.2		0.0		
51	11/5/2015 16:15:51	98	0	0				1.1	0				1.0		31.0		71.0	100.0		32.0		0.0		166.0		-25.0		11.2		0.0		
52	11/5/2015 16:30:51	459	0	0				1.1	0				1.0		8.0		70.6	100.0		2300.0		0.0		163.0		-25.0		11.2		0.0		
53	11/5/2015 16:45:51	522	0	0				1.1	0				1.0		43.0		70.4	100.0		251.0		0.0		163.0		-25.0		11.2		0.0		
54	11/5/2015 17:00:51	544	0	0				1.1	0				1.0		90.0		70.2	100.0		830.0		0.0		165.0		-25.0		11.2		0.0		
55	11/5/2015 17:15:51	539	0	0				1.2	0				1.0		77.0		69.9	100.0		941.0		0.0		166.0		-25.0		11.2		0.0		
56	11/5/2015 17:30:51	588	0	0				1.2	0				1.0		22.0		70.1	100.0		1152.0		0.0		164.0		-25.0		11.2		0.0		
57	11/5/2015 17:45:51	567	0	0				1.1	0				1.0		34.0		69.9	100.0		1239.0		0.0		167.0		-25.0		11.2		0.0		
58	11/5/2015 18:00:51	656	0	0				1.1	0				1.0		14.0		69.9	100.0		1359.0		0.0		162.0		-25.0		11.2		0.0		
59	11/5/2015 18:15:51	638	0	0				1.1	0				1.0		76.0		69.6	100.0		1501.0		0.0		165.0		-25.0		11.2		0.0		
60	11/5/2015 18:30:51	695	0	0				1.1	0				1.0		2.0		69.5	100.0		1554.0		0.0		170.0		-25.0		11.2		0.0		
H:\2015 11 05 0000 (Wide)/																																
Draw - AutoShapes - \																																

Thanks Vince

From: Neil Fiedler
Sent: Monday, November 09, 2015 11:10 AM
To: Vince Centioni; Reid Todd
Cc: Scott McNair; Darrell McCann; Anthony Larocca
Subject: RE: Data logs - TOx Flare

Data was being stored on the local computer's drive. I've copied everything over to the Server folders Vince uses and fixed the connection issues.

Neil

From: Vince Centioni
Sent: Monday, November 09, 2015 9:18 AM
To: Neil Fiedler; Reid Todd
Cc: Scott McNair; Darrell McCann; Anthony Larocca

ATTACHMENT E**New Operating Scenarios**

MCPU	Process	Equip ID	Use	Category	Control Device
No new operating scenarios					

Subpart UU LDAR Report

ATTACHMENT F

SEMIANNUAL COMPLIANCE REPORT FOR MON LDAR PROGRAM**REPORTING PERIOD:****1 July to 31 December 2015****63.1039 Report Requirement b (1)**

b(1)(i) VALVES: Unit ID's 04, 05, 06, 07, 08, 09	
Monitoring Dates:	See Reporting Period.
No. Valves Monitored During Period:	1710
No. Valves Leaking During Period:	0
No. of Valves - Leak Not Repaired:	0
Monitored Valve Leakage Rate:	0.0%
Required Monitoring Frequency:	Annually

b(1)(ii) PUMPS: All Subpart FFFF Units							
Date Monitored:	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Total
No. Pumps Monitored During Period:	51	51	59	51	51	51	314
No. Pumps Leaking During Period:	0	0	0	0	0	0	0
No. Pumps Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Pumps for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(iii) CONNECTORS (In accordance with 63.2480(b)(4), the facility will comply with 63.1029)
No reporting required.

b(1)(iv) AGITATORS All Subpart FFFF Units							
Date Monitored:	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Total
No. Agitators Monitored During Period:	20	20	23	20	20	20	123
No. Agitators Leaking During Period:	0	0	0	0	0	0	0
No. Agitators Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Agitators for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(v) COMPRESSORS

No compressors in HAP service.

(b)(2) Delay of Repair.

No. of Delay of Repair Events: 0

(b)(3) Valve Subgrouping Information of 63.1025(b)(4)(I)

Not Applicable

(b)(4) PRESSURE RELIEF DEVICES GV SERVICE

Date of Test: None

Concentration [ppm]: NA

(b)(5) Initiation of monthly monitoring for valves:

Not Applicable

(b)(6) Quality improvement program for pumps

Not required due to low leak rate for pumps.

(b)(7) Alternative means of emission limitations.

Pressure test report attached.

(b)(8) No units with later compliance dates at the facility.

ATTACHMENT F
ADDENDUM 1
FID MONITORING DETAIL

FID MONITORING DETAILS BY AREA

Jul-15					Agitators			
Pumps								
Unit ID	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	
Aug-15					Agitators			
Pumps								
Unit ID	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	
Sep-15					Agitators			
Pumps								
Unit ID	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	8	0	0	0	3	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	59	0	0	0	23	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	
Oct-15					Agitators			
Pumps								
Unit ID	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Nov-15

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Dec-15

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	0	0	0	0	0	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	11	0	0	0	14	0	0	0
04 - Epsilon	6	0	0	0	0	0	0	0
09 & 10 - Tank Farm	21	0	0	0	0	0	0	0
Totals	51	0	0	0	20	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

ATTACHMENT F
ADDENDUM 2
LEAK LOG

LEAK LOG FOR MON REPORT JULY 1, 2015 - DEC 31, 2015							
Leak Date	Component	Equipment	Initial Reading (ppm)	First Attempt Date	Final Repair Date	Final Reading (ppm)	Comments
12/10/2015	reclaim port connector	TK-511/p581 reclaim	590	12/11/2015	12/11/2015	1.2	Installed cap/plug - Epsilon operations
12/10/2015	sample port connector	TK-513/p584 sample	714	12/11/2015	12/11/2015	0.25	Installed cap/plug - Epsilon operations
12/10/2015	sample port connector	P-572 gauge port	1,136	12/11/2015	12/11/2015	0.0	Installed cap/plug - Epsilon operations
12/10/2015	connector	TK-411/p409 sample manifold - tanker pipe	887	12/11/2015	12/11/2015	3.3	tightened flange - Main TF operations
12/10/2015	sample port connector	P-572/v577 drain port	654	12/11/2015	12/11/2015	0.9	Installed cap/plug - Epsilon operations
12/10/2015	connector	TK-519/p5119	1,934	12/11/2015	12/16/2016	47.0	removed entire line, replaced flange and gasket - Main TF, Maintenance

EPA LDAR LEAK CORRECTIVE ACTIONS

date	time	equip ID/ parent ID	equip type	FID reading (ppm)	WO request #	
11-Dec-15	12:35:23	calibration	calibration	0.25		
11-Dec-15	12:35:52	calibration	calibration	497		
11-Dec-15	12:36:35	calibration	calibration	0.08		
11-Dec-15	12:37:10	calibration	calibration	496		
11-Dec-15	12:37:59	calibration	calibration	0.09		
11-Dec-15	12:38:32	calibration	calibration	497		
11-Dec-15	12:43:45	TK519/P5119 - 1st reading	connector	667	11846	- made initial repair - tightened bolts (Steve V.) - still leaking - 15 days for final repair (Timmy Wall)
11-Dec-15	12:44:28	TK519/P5119 - 2nd reading	connector	1934	11846	
		Sample/ recycle	Port	no WO 3.33 SV/TW	tightened cap	12/11/15 - VC
11-Dec-15	12:57:01	TK411/P409	Sample/ recycle	no WO 1.82 SV/TW	tightened cap	
11-Dec-15	12:57:26	TK411/P409	Sample/ recycle	no WO SV/	installed cap	
11-Dec-15	13:01:54	TK511/P581	Port	1.22 Epsilon	cap	
		Sample/ recycle	Port	no WO SV/	installed cap	
11-Dec-15	13:07:36	TK513/P584 - Pressure gauge	Port	0.25 Epsilon	cap	
		Drain	Port	no WO SV/	installed cap	
11-Dec-15	13:11:05	V577/P572 DRAIN PORT	Port	0.87 Epsilon	cap	
		NE sump dike drain		no WO SV/	liquid did read MeCl or Xylene	
11-Dec-15	13:12:39	EPS DIKE NE DRN		4.54 Epsilon		
		Drain	Port	no WO SV/	installed cap	
11-Dec-15	13:14:52	V577/P572 GAU V PORT	Port	-0.14 Epsilon	cap	
11-Dec-15	14:52:07	V441 dike -TK402 HEADER FLG	connector	0.12	11844	-TK-402 does not contain a HAP, VOC, or TAP. - visual leaks from TK402 to header located in V-441 dike - all connector gaskets were replaced and repaired see picture (Steve V.) PICTURE SENT TO EPA - VC
11-Dec-15	14:52:23	V441 dike -TK402 HEADER FLG	connector	0.1	11844	

END

TK-519/P5119 FINAL REPAIR RECORDS - EPA INSPECTION

16-Dec-15	12:58:12	calibration	505
16-Dec-15	12:58:29	calibration	506
16-Dec-15	12:58:53	calibration	0.69
16-Dec-15	12:59:45	calibration	507
16-Dec-15	13:00:06	calibration	0.98

<u>date</u>	<u>time</u>	<u>Parent ID</u>	<u>Equip type</u>	<u>MeCl concentration (ppm)</u>	
16-Dec-15	13:03:47	P5119/TK519	bottom flange		
16-Dec-15	13:08:33	P5119/TK519	gasket	590	1.)
16-Dec-15	13:08:42	P5119/TK519	top of gasket	4.45	Timmy Wall removed pipework.
16-Dec-15	13:08:53	P5119/TK519	top of gasket	3.36	Brent Morris replaced gasket on blind flange.
16-Dec-15	13:08:53	P5119/TK519	top of gasket	2.81	
			bottom flange		
16-Dec-15	13:15:42	P5119/TK519	gasket	219	
16-Dec-15	13:18:07	P5119/TK519	valve	5.96	
16-Dec-15	13:18:16	P5119/TK519	valve	5.13	
16-Dec-15	13:18:25	P5119/TK519	valve	4.48	2.) Brent tightned down the blind and replaced gasket again, then he flushed and cleaned the valve
			bottom flange		
16-Dec-15	13:28:32	P5119/TK519	gasket	52.96	connected to the flange gasket.
			bottom flange		
16-Dec-15	13:29:03	P5119/TK519	gasket	47.52	All readings under 500 ppm, no visual leak.
			bottom flange		
16-Dec-15	13:29:20		gasket	92.25	This is a connector thereby monitored under visual inspections.
			bottom flange		
16-Dec-15	13:30:20	P5119/TK519	gasket	61.2	No visual leak, and under 500 ppm.
16-Dec-15	13:33:40	P5119/TK519	top of gasket	15.81	
16-Dec-15	13:34:53	P5119/TK519	top of gasket	39.14	
16-Dec-15	13:35:29	P5119/TK519	top of gasket	13.53	
			bottom flange		
16-Dec-15	13:36:06	P5119/TK519	gasket	59.62	
16-Dec-15	13:39:04	P5119/TK519	top of gasket	5.95	
				43	47
				average flange concentration - MeCl (ppm)	

Repair 2,3

Final Repair 4

12/16/15

P5119/TK519 - EPSILON FLANGE

END

- V.C.

- V.C.

- V.C.

ATTACHMENT F**ADDENDUM 3
PRESSURE TEST REPORT**

Annual pressure testing of storage tanks and process equipment completed during this reporting period are included in the following attachment. Any storage tank that was not tested during the second half of 2015 was tested and reported on the previous semi-annual report.

Process equipment is being checked using method 21, and the components checked are included in Subpart UU report. Pressure testing is not being used as a compliance method for process equipment.

PRESSURE TEST REPORT FOR PERIOD JULY 1, 2015 TO DEC 31, 2015

Eq. ID	No. Tests	No. Fails	Facts Re DoR	Date	
02TK102	1	0	main TF	10/23/2015	
02TK103	1	0	main TF	10/23/2015	
02TK104	2	1	main TF	12/17/2015	- PER T.W. fixed PSV to
02TK210	26	0	main TF	weekly	thermal oxidizer - Retested
02TK251	0	0	main TF	Regal 2b MACT	
02TK252	2	1	main TF	11/2/2015	- WO 1136 - fixed PSV
02TK254	1	0	main TF	10/23/2015	
02TK256	1	0	main TF	10/23/2015	
03D130	1	0	a/b	8/14/2015	
03D301	n/a	n/a	a/b (not in use, empty)	n/a	
03FP401	1	0	a/b	8/14/2015	
03R150	n/a	n/a	a/b (not in use, empty)	n/a	
03R304	1	0	a/b	8/14/2015	
03TK301	1	0	main TF	10/23/2015	
03TK310	1	0	main TF	10/23/2015	
03TK311	1	0	main TF	10/23/2015	
03TK338	n/a	n/a	main TF (no HAP)	n/a	
03TK361b	1	0	main TF	10/23/2015	
03TK382	n/a	n/a	main TF (no HAP)	n/a	
03V309	1	0	main TF	10/23/2015	
03V310	1	0	main TF	10/23/2015	
03V322	n/a	n/a	a/b (no HAP)	n/a	
03V358	1	0	a/b	8/17/2015	
03V369	1	0	main TK farm	10/23/2015	
03V374	1	0	main TK farm	10/23/2015	
03V380	n/a	n/a	a/b (no HAP - WW)	n/a	
03V432	1	0	gamma	10/21/2015	
04TK410	1	0	gamma TF	10/23/2015	
04TK411	26	0	main TK farm	weekly	
04TK433	0	0	main TK farm	10/23/2015	
05C503	n/a	n/a	epsilon (no HAP)	n/a	
05R501	1	0	delta	12/21/2015	
05R502	1	0	delta	12/21/2015	
05R503	1	0	delta	12/21/2015	
05TK501	1	0	delta TF	10/23/2015	
05TK505	1	0	delta TF	10/23/2015	
05TK507	1	0	delta TF	10/23/2015	
05TK516	1	0	delta TF	10/23/2015	
05V575	n/a	n/a	epsilon (no HAP)	n/a	
05V576	n/a	n/a	epsilon (no HAP)	n/a	

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20						page	of	
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CH	06/30/2014	09:45	06/30/2014	10:45		<input checked="" type="radio"/>	<input type="radio"/>	
CAUSE OF FAILURE					CORRECTIVE ACTION			
XV 04A Valve Malfunction					E&I work with valve Restrict it			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
B	06/30/2014	1515	06/30/2014	1645		<input checked="" type="radio"/>	<input type="radio"/>	
CAUSE OF FAILURE					CORRECTIVE ACTION			
XV-04B Valve Malfunction					E&I Replaced the Valve Indicator			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CH	07/02/2014	07:05	07/02/2014	1800		<input checked="" type="radio"/>	<input type="radio"/>	
CAUSE OF FAILURE					CORRECTIVE ACTION			
BL SUP Fault miscreed					Replaced motor and fan (blower) E&I to ✓ Motor			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CB	07/03/2014	12:06	07/03/2014	15:00		<input checked="" type="radio"/>	<input type="radio"/>	
CAUSE OF FAILURE					CORRECTIVE ACTION			
Low air pressure XV 11 Value would not open - causing system to fault out					Air compressor back on line after repair service			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
Ø	07/10/2014					<input type="radio"/>	<input type="radio"/>	
CAUSE OF FAILURE					CORRECTIVE ACTION			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
						<input type="radio"/>	<input type="radio"/>	
CAUSE OF FAILURE					CORRECTIVE ACTION			

Must respond to alarms within 15 minutes. Must document that plants were notified to stop venting to Polaris. Plants must stop venting if they can do so safely. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20							page	of
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
RC	8/19/15	06:50	8/19/15	07:20				
CAUSE OF FAILURE xv-06 valve malfunction					CORRECTIVE ACTION Reset + restarted powered down + back up			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CB	08/19/2015	20:45	08/19/2015	23:40				
CAUSE OF FAILURE XV-06 valve malfunction					CORRECTIVE ACTION Reset Restarted			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CB	08/21/2015	0205	08/21/2015	0235				
CAUSE OF FAILURE XU-06B valve malfunction					CORRECTIVE ACTION Powered down 10 seconds and back up / started			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
DBL	08/24/2015	0005	08/24/2015	0015				
CAUSE OF FAILURE XV-06B VALVE MALFUNCTION					CORRECTIVE ACTION Powered Down Reset + Restarted unit			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CB	08/24/2015	1815	08/24/2015	1820				
CAUSE OF FAILURE XV-06B valve malfunction					CORRECTIVE ACTION Powered down and Reset.			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CH	08/25/2015	11:38	08/25/2015	12:00				
CAUSE OF FAILURE XV06B valve malfunction					CORRECTIVE ACTION Powered down and Restarted it			

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20_____ page_____ of_____						
TECH DRL	FAIL DATE 08/24/2015	FAIL TIME 0003	RESTART DATE 08/24/2015	RESTART TIME 0012	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XVO6B VFA/1/2 MAL Function					CORRECTIVE ACTION Powered Down Reset + Restarted	
TECH DRL	FAIL DATE 08/27/2015	FAIL TIME 03:12	RESTART DATE 08/27/2015	RESTART TIME 0320	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XVO6B VFA/1/2 Fault					CORRECTIVE ACTION Powered Down Reset + Restarted	
TECH CB	FAIL DATE 08/28/2015	FAIL TIME 06:55	RESTART DATE 08/28/2015	RESTART TIME 07:45	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XO6B Valve Fault					CORRECTIVE ACTION Powered Down - Reset, Restarted	
TECH CB	FAIL DATE 08/29/2015	FAIL TIME 12:00	RESTART DATE 08/29/2015	RESTART TIME 12:30	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XO6B Valve Fault					CORRECTIVE ACTION Powered Down, Reset, Restarted	
TECH CB	FAIL DATE 08/30/2015	FAIL TIME 07:20	RESTART DATE 08/30/2015	RESTART TIME 08:10	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XO6B Valve Fault					CORRECTIVE ACTION Powered Down Reset, Restarted	
TECH CH	FAIL DATE 08/31/2015	FAIL TIME 00:10	RESTART DATE 08/31/2015	RESTART TIME 00:23	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XVO6B valve malfunction					CORRECTIVE ACTION Reset + Restarted it	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____							
TECH CB	FAIL DATE 08/31/2015	FAIL TIME 12:22	RESTART DATE 08/31/2015	RESTART TIME 13:30	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XV06B Valve Malfunction					CORRECTIVE ACTION Powered Down - Restarted		
TECH DKE	FAIL DATE 09/01/2015	FAIL TIME 02:25	RESTART DATE 09/01/2015	RESTART TIME 02:40	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XV06B VALVE FAULT					CORRECTIVE ACTION Powered Down Restarted		
TECH CB	FAIL DATE 09/02/2015	FAIL TIME 09:40	RESTART DATE 09/02/2015	RESTART TIME 10:30	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE Blower shut down					CORRECTIVE ACTION Drained 50 gallons of liquid into tote - Reset, Restarted		
TECH CH	FAIL DATE 09/03/2015	FAIL TIME 04:35	RESTART DATE 09/03/2015	RESTART TIME 04:55	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE XV06A valve malfunction					CORRECTIVE ACTION Fixed broken air line valve XV06A		
TECH CB	FAIL DATE 09/14/2015	FAIL TIME 16:30	RESTART DATE 09/14/2015	RESTART TIME 16:50	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE V02 Fault					CORRECTIVE ACTION Reset - restart		
TECH QB	FAIL DATE 09/23/2015	FAIL TIME 1500	RESTART DATE 09/23/2015	RESTART TIME 1510	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE High Combustion temp.					CORRECTIVE ACTION Reset and started		

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

*WAS THIS
EX...??*
UC →

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____							
TECH Q3	FAIL DATE 09/26/2015	FAIL TIME 08:00	RESTART DATE 09/26/2015	RESTART TIME 08:30	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE High Combustion Temp.					CORRECTIVE ACTION Had to Reset and start 3x's; all three times was for high combustion temp.		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____						
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CB	10/09/2015	04:30	10/09/2015	06:10	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE Blower Run Indica					CORRECTIVE ACTION Restarted - started and Restarted 4x	
CB	18/09/2015	21:00	10/09/2015	21:30	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE #02 Pump Fault out					CORRECTIVE ACTION reset Breaker - started up	
DRC	10/11/2015	06:45	10/11/2015	0655	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE no Flow Blower Run INDIC					CORRECTIVE ACTION Restarted	
DRC	10/12/2015	0850	10/12/2015	0900	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE NO FLOW					CORRECTIVE ACTION Restarted	
DRC	10/12/2015	0915	10/12/2015	10:10	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE Blower Full of Liquid ice got Drain					CORRECTIVE ACTION Drain Blower Reset Blower Restarted	
DRC	10/19/2015	0450	10/19/2015	0515	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE Voi Level xmitter not Reading Right					CORRECTIVE ACTION Turned pump off + back on Restarted Cryo	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20_____ page_____ of_____						
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
DRC	10/19/2015	06:00	10/19/2015	06:10	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE					CORRECTIVE ACTION	
V01 Level x-mitter Reading wrong					Restarted	
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CH	10/19/2015	07:41	10/19/2015	07:53	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE					CORRECTIVE ACTION	
V01 level x-mitter read 100% full was M.L.T.					Restarted cut in steam train	
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CH	10/20/2015	08:35	10/20/2015	08:45	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE					CORRECTIVE ACTION	
Column Freezing up no flow					Reset + Restarted	
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CH	10/20/2015	08:56	10/20/2015	09:20	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE					CORRECTIVE ACTION	
Column freezing up no flow					Reset + Restarted	
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CB	10/29/2015	07:00	10/29/2015	07:30	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE					CORRECTIVE ACTION	
Liquid in blower					Drained 20 gallons (approx) of liquid and started back up.	
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CB	11/01/2015	09:15	11/01/2015	09:45	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE					CORRECTIVE ACTION	
Column freezing no flow in blower					Reset 2x's stayed running the second time has a flow now!	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____						
TECH CB	FAIL DATE 11/02/2015	FAIL TIME 06:50	RESTART DATE 11/02/2015 11/02/2015	RESTART TIME 09:50 09:50	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE VX 12 valve malfunction Replaced Broken air line					CORRECTIVE ACTION Having E&I checking out. Replaced broken air line started.	
TECH PRE	FAIL DATE 11/24/15	FAIL TIME 19:00	RESTART DATE 11/24/15	RESTART TIME 19:15	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE HDP Column 2 NO Flow					CORRECTIVE ACTION Restarted	
TECH CB	FAIL DATE 11/28/2015	FAIL TIME 07:40	RESTART DATE 11/28/2015	RESTART TIME 08:00	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE Blower stopped no flow					CORRECTIVE ACTION Reset and started.	
TECH CB	FAIL DATE 11/30/2015 12/01/2015	FAIL TIME 00:36 00:36	RESTART DATE 12/01/2015	RESTART TIME 00:45	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE Run Indication K01 (Blower stopped) No liquid in Fur					CORRECTIVE ACTION Reset Restarted	
TECH CB	FAIL DATE 12/1/15	FAIL TIME 06:50	RESTART DATE 12/1/15	RESTART TIME 07:30	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE No flow blower					CORRECTIVE ACTION Restarted	
TECH RC	FAIL DATE 12/24/15	FAIL TIME 07:15	RESTART DATE 01/04/16	RESTART TIME 07:00	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE Shut down					CORRECTIVE ACTION Restarted	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

ADDENDUM 3
PRESSURE TEST REPORT

Annual pressure testing of storage tanks and process equipment completed during this reporting period are included in the following attachment. Any storage tank that was not tested during the second half of 2015 was tested and reported on the previous semi-annual report.

Process equipment is being checked using method 21, and the components checked are included in Subpart UU report. Pressure testing is not being used as a compliance method for process equipment.

PRESSURE TEST REPORT FOR PERIOD JULY 1, 2015 TO DEC 31, 2015

Eq. ID	No. Tests	No. Fails	Facts Re DoR	Date	
02TK102	1	0	main TF	10/23/2015	
02TK103	1	0	main TF	10/23/2015	
02TK104	2	1	main TF	12/17/2015	- PER T.W. fixed PSV to thermal oxidizer - Retested
02TK210	26	0	main TF	weekly	
02TK251	0	0	main TF	Regal 2b MACT	
02TK252	2	1	main TF	11/2/2015	- WO 1136 - fixed PSV
02TK254	1	0	main TF	10/23/2015	
02TK256	1	0	main TF	10/23/2015	
03D130	1	0	a/b	8/14/2015	
03D301	n/a	n/a	a/b (not in use, empty)	n/a	
03FP401	1	0	a/b	8/14/2015	
03R150	n/a	n/a	a/b (not in use, empty)	n/a	
03R304	1	0	a/b	8/14/2015	
03TK301	1	0	main TF	10/23/2015	
03TK310	1	0	main TF	10/23/2015	
03TK311	1	0	main TF	10/23/2015	
03TK338	n/a	n/a	main TF (no HAP)	n/a	
03TK361b	1	0	main TF	10/23/2015	
03TK382	n/a	n/a	main TF (no HAP)	n/a	
03V309	1	0	main TF	10/23/2015	
03V310	1	0	main TF	10/23/2015	
03V322	n/a	n/a	a/b (no HAP)	n/a	
03V358	1	0	a/b	8/17/2015	
03V369	1	0	main TK farm	10/23/2015	
03V374	1	0	main TK farm	10/23/2015	
03V380	n/a	n/a	a/b (no HAP - WW)	n/a	
03V432	1	0	gamma	10/21/2015	
04TK410	1	0	gamma TF	10/23/2015	
04TK411	26	0	main TK farm	weekly	
04TK433	0	0	main TK farm	10/23/2015	
05C503	n/a	n/a	epsilon (no HAP)	n/a	
05R501	1	0	delta	12/21/2015	
05R502	1	0	delta	12/21/2015	
05R503	1	0	delta	12/21/2015	
05TK501	1	0	delta TF	10/23/2015	
05TK505	1	0	delta TF	10/23/2015	
05TK507	1	0	delta TF	10/23/2015	
05TK516	1	0	delta TF	10/23/2015	
05V575	n/a	n/a	epsilon (no HAP)	n/a	
05V576	n/a	n/a	epsilon (no HAP)	n/a	

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20						page	of
TECH <i>CH</i>	FAIL DATE <i>06/30/2014</i>	FAIL TIME <i>09:45</i>	RESTART DATE <i>06/30/2014</i>	RESTART TIME <i>10:45</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CAUSE OF FAILURE <i>XV 04A Valve Malfunction</i>					CORRECTIVE ACTION <i>E.I. work with valve Restrict it</i>		
TECH <i>B</i>	FAIL DATE <i>06/30/2014</i>	FAIL TIME <i>15:15</i>	RESTART DATE <i>06/30/2014</i>	RESTART TIME <i>16:45</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CAUSE OF FAILURE <i>XV-04B Valve Malfunction</i>					CORRECTIVE ACTION <i>E.I. Replaced the Valve Indicator</i>		
TECH <i>CH</i>	FAIL DATE <i>07/02/2014</i>	FAIL TIME <i>07:05</i>	RESTART DATE <i>07/02/2014</i>	RESTART TIME <i>18:00</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CAUSE OF FAILURE <i>BL SUP Fault miscrem</i>					CORRECTIVE ACTION <i>Replaced motor and fan (blower) E.I. to ✓ Motor</i>		
TECH <i>CB</i>	FAIL DATE <i>07/03/2014</i>	FAIL TIME <i>12:06</i>	RESTART DATE <i>07/03/2014</i>	RESTART TIME <i>15:00</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CAUSE OF FAILURE <i>Low air pressure XV 11 Valve would not open - causing system to fault/out</i>					CORRECTIVE ACTION <i>Air compressor back on line after repair service</i>		
TECH <i>JD</i>	FAIL DATE <i>07/10/2014</i>	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down? <input type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down? <input type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CAUSE OF FAILURE					CORRECTIVE ACTION		

Must respond to alarms within 15 minutes. Must document that plants were notified to stop venting to Polaris. Plants must stop venting if they can do so safely. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20							page	of
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
RC	8/19/15	06:50	8/19/15	07:20				
CAUSE OF FAILURE XV-06 valve malfunction					CORRECTIVE ACTION Reset + Restarted powered down + back up			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CB	08/19/2015	20:45	08/19/2015	23:40				
CAUSE OF FAILURE XV-06 valve malfunction					CORRECTIVE ACTION Reset Restarted			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CB	08/21/2015	0205	08/21/2015	0235				
CAUSE OF FAILURE XU-06B valve malfunction					CORRECTIVE ACTION Powered down 10 seconds and back up / started			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
DBL	08/24/2015	0005	08/24/2015	0015				
CAUSE OF FAILURE XV-06B VALVE MALFUNCTION					CORRECTIVE ACTION Powered Down Reset + Restarted unit			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CB	08/24/2015	1815	08/24/2015	1820				
CAUSE OF FAILURE XV-06B valve malfunction					CORRECTIVE ACTION Powered down and Reset.			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND	
CH	08/25/2015	11:38	08/25/2015	12:00				
CAUSE OF FAILURE XV06B valve malfunction					CORRECTIVE ACTION Powered down and Restarted it			

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____						
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
DRC	08/24/2015	0003	08/24/2015	0012	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XVO6B VFA/VL MALFUNCTION					CORRECTIVE ACTION Powered Down Reset + Restarted	
DRL	08/27/2015	03:12	08/27/2015	0320	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XVO6B VFA/VL Fault					CORRECTIVE ACTION Powered Down Reset + Restarted	
CB	08/28/2015	06:55	08/28/2015	07:45	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XO6B Valve Fault					CORRECTIVE ACTION Powered Down - Reset, Restarted	
CB	08/29/2015	12:00	08/29/2015	12:30	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XO6B Valve Fault					CORRECTIVE ACTION Powered Down, Reset, Restarted	
CB	08/30/2015	07:20	08/30/2015	08:10	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XO6B Valve Fault					CORRECTIVE ACTION Powered Down Reset, Restarted	
CH	08/31/2015	00:10	08/31/2015	00:23	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XVO6B valve malfunction					CORRECTIVE ACTION Reset + Restarted it	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page ____ of ____						
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CB	08/31/2015	12:22	09/01/2015	13:30	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XV06B Valve Malfunction					CORRECTIVE ACTION Powered Down - Restarted	
DRC	09/01/2015	02:25	09/01/2015	02:40	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XV06B Valve Fault					CORRECTIVE ACTION Powered Down Restarted	
CB	09/02/2015	09:40	09/02/2015	10:30	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE Blower shut down					CORRECTIVE ACTION Drained 50 gallons of liquid into tote - Reset, Restarted	
CH	09/03/2015	04:35	09/03/2015	04:55	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE XV06A valve malfunction					CORRECTIVE ACTION Fixed broken air line valve XV06A	
CB	09/14/2015	16:30	09/14/2015	16:50	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE V02 Fault					CORRECTIVE ACTION Reset - restart	
CB	09/23/2015	1500	09/23/2015	1510	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE High Combustion temp.					CORRECTIVE ACTION Reset and started	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

*WAS THIS
LOK...??
✓*

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____							
TECH 13	FAIL DATE 09/26/2015	FAIL TIME 08:00	RESTART DATE 09/26/2015	RESTART TIME 08:30	Plants Notified Polaris Down?	<input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE High Combustion Temp.					CORRECTIVE ACTION Had to reset and start 3x, all three times was for high combustion temp.		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION		

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20_____ page_____ of_____						
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CB	10/09/2015	04:30	10/09/2015	06:10	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE Blower Run Indica					CORRECTIVE ACTION Restarted - started and Restarted 4x	
CB	18/09/2015	21:00	10/09/2015	21:30	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE #02 Pump Fault out					CORRECTIVE ACTION reset Breaker - started up	
DRC	10/11/2015	06:45	10/11/2015	06:55	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE no flow Blower Run INDIC					CORRECTIVE ACTION Restarted	
DRC	10/12/2015	0850	10/12/2015	0900	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE no Flow					CORRECTIVE ACTION Restarted	
DRC	10/12/2015	0915	10/12/2015	10:10	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE Blower Full of Liquid 100 gpl Drain					CORRECTIVE ACTION Drain Blower Reset Blower Restarted	
DRC	10/19/2015	0450	10/19/2015	0515	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CAUSE OF FAILURE Voi Level xmitter not Reading Right					CORRECTIVE ACTION Turned pump off + back on Restarted cryo	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____						
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
DRC	10/19/2015	06:00	10/19/2015	06:10	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE V01 Level x-mitter Reading wrong					CORRECTIVE ACTION Restarted	
CH	10/19/2015	07:41	10/19/2015	07:55	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE V01 Level x-mitter ^{read 100% full} was full					CORRECTIVE ACTION cut on steam train Restarted	
CH	10/20/2015	08:35	10/20/2015	08:45	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE Column Freezing up ^{no flow}					CORRECTIVE ACTION Reset + Restarted	
CH	10/20/2015	08:56	10/20/2015	09:20	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE Column freezing up ^{no flow}					CORRECTIVE ACTION Reset + Restarted	
DB	10/29/2015	07:00	10/29/2015	07:30	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE Liquid in blower					CORRECTIVE ACTION Drained 20 gallons (approx) of liquid and started back up.	
DB	11/01/2015	09:15	11/01/2015	09:45	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE Column freezing no flow in blower					CORRECTIVE ACTION Reset 2x's stayed running the second time has a flow now!	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20____ page____ of____						
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CB	11/02/2015	06:50	11/02/2015	09:50	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE VX 12 valve malfunction Replaced Broken air line					CORRECTIVE ACTION Having E&I checking out. Replaced broken air line started.	
PRE	11/24/15	19:00	11/24/15	19:15	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE H-PP Column 2 NO Flow					CORRECTIVE ACTION Restarted	
CB	11/28/2015	07:40	11/28/2015	08:00	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE Blower stopped no flow					CORRECTIVE ACTION Reset and started.	
CB	11/30/2015	00:30	12/01/2015	00:45	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE (Blower stopped) Run Indication KOI No liquid in Fur					CORRECTIVE ACTION Reset Restarted	
CB	12/1/15	06:50	12/1/15	07:30	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE No flow blower					CORRECTIVE ACTION Restarted	
RC	12/24/15	07:15	01/04/16	07:00	<input checked="" type="radio"/> YES <input type="radio"/> NO	
CAUSE OF FAILURE Shut down					CORRECTIVE ACTION Restarted	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

MS. MARY PEYTON WALL
BUREAU OF AIR
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201



9590 9402 1466 5329 6502 92

2. Article Number (Transfer from service label)

7012 2920 0000 8125 8409

COMPLETE THIS SECTION ON DELIVERY

A. Signature DO NOT RELEASE

X [Signature] ☐ Agent
☐ Address

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over \$500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restrict Delivery
- ☒ Return Receipt for Merchandise
- ☐ Signature Confirmation®
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

**U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT**
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
Here

Sent To
MARY PEYTON WALL BUREAU OF AIR SC DHEC
Street, Apt. No.,
or PO Box No. 2600 BULL ST
City, State, ZIP+4 COLUMBIA, SC 29201

PS Form 3800, August 2006

See Reverse for Instructions

7012 2920 0000 8125 8409





888 Woodstock St. Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

August 24th, 2016

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

Enclosed is the first half 2016 semi-annual report for 3V Sigma USA. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink that reads 'Scott McNair'.

Scott McNair
VP of Plant Management



888 Woodstock St. Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0007

August 24th, 2016

Ms. Mary Peyton Wall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Wall:

Enclosed is the first half 2016 semi-annual report for 3V Sigma USA. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair'.

Scott McNair
VP of Plant Management

SUBPART FFFF (MON) COMPLIANCE REPORT

Semiannual Report

for

3V Sigma USA

Covering
January 1, 2016
through
June 30, 2016

Submitted on August 30, 2016

MON Compliance Report

63.2520 (e) (1) Company Name and Address	
Company Name	3V, Sigma USA.
Street Address	888 Woodstock Street
City, State Zip Code	Georgetown, SC 29440
Mailing Address:	888 Woodstock Street
City, State Zip Code	Georgetown, SC 29440
Contact Person	Vince Centioni
Title	Environmental Manager
Telephone	843.520.0128
Fax	843.546.0007

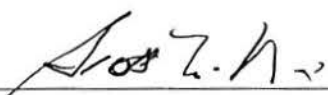
63.2520 (e) (2) Certification of Truth, Accuracy, and Completeness	
Last Name	McNair
First Name	Scott
Title	Plant Manager
Telephone	843-520-0146
Fax	843-546-0007
I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.	
Name (signed)	
Name (printed)	Scott McNair
Date	08/24/2016

TABLE OF CONTENTS

1. INTRODUCTION
2. MON COMPLIANCE REPORT RESPONSES
3. ATTACHMENTS
 - A. Excess Emission Events from Start Up, Shutdowns or Malfunctions
 - B. Information On Deviations For Systems Without CMS
 - C. Information On Deviations On Systems With CMS
 - D. Copies of Operating Logs of Sources Using CMS for Compliance (68H002 Thermal Oxidizer).
 - E. Operating Scenarios
 - F. Report for Subpart UU (LDAR Summary).

1. INTRODUCTION

3V Sigma USA is subject to the Miscellaneous Organic NESHAP 40 CFR Part 63 Subpart FFFF for organic chemical manufacturing processes in unit ID's 04, 05, 06 and 07. The facility is also subject to the Pharmaceutical MACT 40 CFR Part 63 Subpart GGG in unit ID 04. The purpose of this notification is to document the facility's compliance status with Subpart FFFF.

This report has been formatted by following the periodic report section of Subpart FFFF located in 63.2520 (e). Specific CFR citations are listed in their order with a response to each. In some cases it was convenient to prepare the information requested in a separate report. In these cases that report is provided as an attachment.

2. MON COMPLIANCE REPORT RESPONSES

63.2520 (e) (4) *Records showing that for each SSM during which excess emissions occurred, procedures specified in the SSMP were followed. Documentation of actions taken that were not consistent with SSMP. Brief description of each malfunction.*

Provided in Attachment A is a list SSM events that may have resulted in excess emissions. This list comprises all events involving a malfunction or shutdown of control devices. The facility SSM Plan requires operators to reduce production activity to minimize emissions during control device service interruption until the unit can be restarted or back-up systems can be put in place.

During the reporting period there were scheduled holiday production shutdowns on New Years Day, Good Friday, and Memorial Day. The weekly production schedule was Monday – Saturday. CMS for the TOx & Flare was lost on 3/13/16 and 4/4/16 for 2.5 hrs due to RS view communication loss to the server from power outages. During each event the control devices maintained performance test temperature limits (~ 1500 F TOx). The facility nitrogen supplier – Air Liquide installed a check valve on the pipe that supplies liquid nitrogen from the storage tank to CE-01/02. The valve was wrapped in 8 inches of insulation thereby making it unaware to facility personnel. On June 10th around 14:00 the Air Liquide check valve broke and the liquid nitrogen flow was restricted from the storage tank to CE-01/02. The failure caused the facility to exceed daily average temperature limits from June 11th – June 28th. The daily average limit was established by engineering design evaluations and initial control device performance tests. Detailed maintenance records are attached. See Table 63.2520(e)(5)(iii)(L).

63.2520 (e) (5) (i) *Statement indicating there were no deviations from any emission limit, operating limit, or work standard during the reporting period.*

Not Applicable.

63.2520 (e) (5) (ii) *For each deviation from an emission limit, operating limit, and work standard that occurred at an affected source where CMS is NOT used to comply with same provide the following....*

63.2520 (e) (5) (ii) (A) *Total operating time of the affected source during the reporting period,*

Total operating time during reporting period was 3672 hours.

63.2520 (e) (5) (ii) (B) *Information on number, duration, and cause of deviations, and corrective action taken for deviations including periods of SSM.*

No deviations from systems where CMS is NOT used to comply with regulations.

63.2520 (e) (5) (ii) (C) *Copies of operating logs of processes with batch vents from batch operations on day(s) during which deviation occurred for those deviations from emission limits, operating limits, and work standards, occurring at an affected source where CMS is NOT used to comply with same. Include periods of SSM.*

Not applicable.

63.2520 (e) (5) (iii) *For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, include the following information:*

63.2520 (e) (5) (iii) (A) *Dates and times that each CMS was inoperative for sources where CMS is used to comply with emission limits and operating limits.*

See Attachment B for CMS downtime details.

63.2520 (e) (5) (iii) (B) *Date, time, and duration that each CMS was out-of-control.*

No periods of CMS out-of-control during this reporting period.

63.2520 (e) (5) (iii) (C) *Date and time that each deviation started and stopped, and information on whether the deviation occurred during SSM, for deviations at sources where CMS is used to comply with emission limits and operating limits.*

See Attachment C.

63.2520 (e) (5) (iii) (D) *Summary of the total duration of deviations occurring during the reporting period, and total duration as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

See the table that follows.

Table 63.2520 (e) (5) (iii) (D) Summary of Total Duration of Deviations Occurring During the Reporting Period, and Total Duration as a Percent of the Total Operating Time			
Parameter	Monitor	Duration of Exceedances, hr	Percentage of exceedances, %
CE-01/CE-02 – (CryoCond temp)	TI-26/TI-27	304	8.3

There are deviations from the temperature limits listed in Table 63.2520 (e) (5) (iii) (I) below from the cryogenic condensers. The thermal oxidizer temperature was not below the limit in Table 63.2520 (e) (5) during production operating time in this reporting period.

63.2520 (e) (5) (iii) (E) Breakdown of total duration of deviations into startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes for deviations at sources where CMS is used to comply with emission limits and operating limits.

See table that follows.

Table 63.2520 (e) (5) (iii) (E) Breakdown of Total Duration of Deviations into Various Categories - 68H001/002 & CE01/02						
Control Device	Startup	Shutdown	Control Equipment Problems, (hr)	Process Problems	Other Known Causes	Other Unknown Causes
68H001	0	0	0	0	0	0
68H002	0	0	0	0	0	0
CE01/02	0	0	304	0	0	0

63.2520 (e) (5) (iii) (F) *Summary of total duration of CMS downtime during reporting period, and as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (F)				
Summary of Total Duration of CMS Downtime.				
Device	Monitor	Parameter	Duration of downtime [hours]	Percentage of downtime [%]
68H001	68TT6001	Temperature	2.5	0.07
68H002	68TT300_3	Temperature	2.5	0.07
01CE01 & 01CE02	01 TI 26 & 01 TI 27	Temperature	0.0	0.0

63.2520 (e) (5) (iii) (G) *Identification of each HAP known to be in the emission stream from each source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (G) HAP's in Emission Streams.	
Device ID using CMS	List of Known HAP's in Emission Stream
68H002	Acetaldehyde, Acrylamide, Ethyl acrylate, Methanol, Vinyl Acetate, Xylene
01CE01 & 01CE02	Methylene Chloride

63.2520 (e) (5) (iii) (H) *Brief description of process units.*

The facility consists of batch chemical manufacturing process units, wastewater treatment units, storage tanks, and air pollution control equipment for the reduction of organic HAP's including: two thermal oxidizer units (68H001 and 68H002) and a cryogenic condenser system, 01CE01, 01CE02. All batch process vents containing methylene chloride are routed to the cryogenic condenser. For the process vents, the cryogenic condenser has been determined to be a process condenser and the vents are collectively Group 2. For storage tanks the cryogenic condenser has been determined to be a control device. There are no continuous process sources.

The affected source includes the MCPU's listed in the table that follows.

Table 63. 2520 (e) (5) (iii) (H) Chemical Manufacturing Processes Operating during the reporting period.	
MCPU	Chemical Manufacturing Processes
04 – Alpha/Beta/Epsilon Plant	Extrapin, Tabanol K, Tabanol NA, Tabanol G, Tabanol 5, Tabanol E, and Tabanol P.
05 – Gamma Plant	Tabanol 5
06 – Delta 1 Plant	Efram CR, Tabanol 1 and Tabanol 2
07 – Delta 2 Plant	Tabanol 5

63.2520 (e) (5) (iii) (I) Brief description of CMS:

There were three control devices used by the facility for compliance with Subpart FFFF during the reporting period. These include flare 68H001, thermal oxidizer 68H002 and the cryogenic condensation system 01CE01 and 01CE02. Flare 68H001 serves as a back up to the thermal oxidizer for downtime due to malfunctions and routine scheduled maintenance. The table that follows lists the continuous monitoring for each device.

Table 63.2520 (e) (5) (iii) (I) Parametric Monitoring Required for Control Devices.				
Device	Parameter	Basis for Parameter	Limit	Basis for Limit
68H001	Combustion Temperature	63.988(c)(1)	1464 °F	Average temperature from test
68H002	Combustion Temperature	63.988(c)(1)	1476 °F	Average temperature from test
01CE01	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation
01CE02	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation

63.2520 (e) (5) (iii) (J) Date of latest CMS certification or audit:

See table that follows.

Table 63.2520 (e) (5) (iii) (J) CMS Certification/Audit Dates.		
Device ID	Monitoring Equipment	Date of Latest CMS Certification/Audit
68H002 Thermal Oxidizer	68TT300-3	07/26/2016
68H001 Ground Flare	68TT6001	07/19/2016
01CE01 Cryogenic Condenser	01TI 26	08/15/2016
01CE02 Cryogenic Condenser	01TI 27	08/15/2016

63.2520 (e) (5) (iii) (K) *Operating logs of processes with vents from batch processes for each day of a deviation where CMS is used to comply with deviations from emission limits and operating limits:*

See Attachment D

63.2520 (e) (5) (iii) (L) *Operating day average values of monitored parameters for each day during which there was a deviation for sources where CMS is used to comply with emission limits and operating limits:*

Table 63.2520 (e) (5) (iii) (L) Operating Day Average Values for Each Exceedance Date.			
Date	Device	Monitor	Average, °F
06/11/16	01 CE01/02	01TI 26 & 01TI 27	-7.2
06/13/16	01 CE01/02	01TI 26 & 01TI 27	7.4
06/14/16	01 CE01/02	01TI 26 & 01TI 27	-1.3
06/15/16	01 CE01/02	01TI 26 & 01TI 27	46.1
06/16/16	01 CE01/02	01TI 26 & 01TI 27	33.7
06/17/16	01 CE01/02	01TI 26 & 01TI 27	28.3
06/18/16	01 CE01/02	01TI 26 & 01TI 27	39.1
06/20/16	01 CE01/02	01TI 26 & 01TI 27	2.7
06/22/16	01 CE01/02	01TI 26 & 01TI 27	-6.8
06/23/16	01 CE01/02	01TI 26 & 01TI 27	21.8
06/24/16	01 CE01/02	01TI 26 & 01TI 27	29.1
06/25/16	01 CE01/02	01TI 26 & 01TI 27	42.7
06/27/16	01 CE01/02	01TI 26 & 01TI 27	-36.7
06/28/16	01 CE01/02	01TI 26 & 01TI 27	-45.5

Note:

The unit never shut down during each cited day. After an internal investigation it was brought to 3V's attention that the liquid nitrogen supply from the tank was being restricted due to a broken check valve wrapped under 8 inches of insulation. The valve was installed and under the responsibility of the 3V's nitrogen supplier – Air Liquide. At no time were 3V personnel aware such a check valve existed until after Air Liquide admitted to that being the root cause. Considering the lack of communication and response from the vendor/nitrogen supplier (Air Liquide) 3V has filed a formal customer complaint.

63.2520 (e) (5) (iv) *Records associated with each calculation required by 63.2525 (e) that exceeds an applicable HAP usage or emissions threshold:*

Emission calculations used to designate Group 2 process vents in the NOCS. No Group 2 process vents relying on HAP usage demonstration.

63.2520 (e) (6) *Statement indicating no periods of out-of-control CEMS:*

Not applicable. Facility does not use CEMS for compliance with Subpart FFFF.

63.2520 (e) (7) *New operating scenarios not already submitted:*

See Attachment E for new operating scenarios since last periodic report. Emissions from this source were included in the construction permit application for the installation of the cryogenic condensation system (CP-FJ).

63.2520 (e) (8) *Records of process units added to a PUG; records of primary product re-determinations:*

Not applicable.

63.2520 (e) (9) *Records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part, and subpart F of 40 CFR 65:*

Information requested in Subpart SS is provided in sections 63.2520 (e)(5)(iii) of this report. See Attachment F for Subpart UU report.

63.2520 (e) (10) *Process changes:*

Not applicable.

ATTACHMENT A**Excess Emission Events from Start Up, Shutdowns, or
Malfunction**

Fail Date	Fail Time	Duration Hours	Unit	SSMP Followed?	Cause – Corrective Action
Thermal Oxidizer and Ground Flare					
1/6/2016	1520	0.25	68H002	Yes	High inlet temperature. Reset Restart.
1/6/2016	2315	0.25	68H002	Yes	High inlet temperature. Reset Restart.
1/7/2016	0235	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
1/7/2016	0550	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
1/7/2016	1633	1.5	68H002	Yes	Power lost. Restarted flare at 17:30.
1/8/2016	1855	0.6	68H002	Yes	Flame failure. Flare on line. Restarted.
1/9/2016	0700	3.0	68H002	Yes	High combustion temp. Flare online. Restart.
1/18/2016	1545	0.5	68H002	Yes	High temp. Restarted.
1/26/2016	0045	9.6	68H002	Yes	High temp. Flare online. E&I called in.
1/27/2016	0730	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
2/2/2016	0700	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
2/2/2016	1320	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
2/3/2016	1945	3.0	68H002	Yes	High combustion temp. Restarted. Flare on.
2/12/2016	1620	0.2	68H002	Yes	High combustion temp. Restarted. Flare on.
2/18/2016	1430	5.0	68H002	Yes	High combustion temp. Restarted. Flare on.
2/21/2016	1315	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
2/21/2016	1600	1.5	68H002	Yes	High combustion temp. Restarted. Flare on.
2/22/2016	1515	12.0	68H002	Yes	High combustion temp. Restarted. Flare on.
2/24/2016	0240	0.2	68H002	Yes	High combustion temp. Restarted. Flare on.
2/24/2016	0540	0.1	68H002	Yes	Flame failure. Retart. Flare on.
2/24/2016	0810	0.1	68H002	Yes	Flame failure. Retart. Flare on.
2/24/2016	1845	0.5	68H002	Yes	Shut down to replace aire inlet stack. Restart.
3/2/2016	1015	0.5	68H002	Yes	Flame failure. Retart. Flare on.
3/3/2016	2200	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
3/3/2016	2225	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
3/4/2016	0015	2.0	68H002	Yes	High combustion temp. Restarted. Flare on.
3/8/2016	0515	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
3/9/2016	0035	3.0	68H002	Yes	Off and and on from comb.temp high. Restart.
3/9/2016	0500	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
3/10/2016	1200	0.2	68H002	Yes	High combustion temp. Restarted. Flare on.
3/10/2016	1525	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
3/11/2016	1445	1.5	68H002	Yes	High combustion temp. Restarted. Flare on.
3/14/2016	0820	1.7	68H002	Yes	High combustion temp. Restarted. Flare on.
3/15/2016	1725	2.9	68H002	Yes	High combustion temp. Restarted. Flare on.
3/19/2016	1108	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
3/22/2016	1220	3.0	68H002	Yes	Off and and on from comb.temp high. Restart.
3/22/2016	2300	12.0	68H002	Yes	Off and and on from comb.temp high. Restart.
3/23/2016	0132	1.0	68H002	Yes	Flame failure. Restart.
3/23/2016	1315	0.7	68H002	Yes	Flame failure. Restart.
3/23/2016	2211	0.1	68H002	Yes	High temp flame arrestor inlet top. Restart.
3/30/2016	1600	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
3/31/2016	1818	0.8	68H002	Yes	High combustion temp. Restarted. Flare on.

4/5/2016	1533	1.4	68H002	Yes	Off and and on from comb.temp high. Restart.
4/6/2016	1440	1.7	68H002	Yes	Off and and on from comb.temp high. Restart.
4/7/2016	1113	0.25	68H002	Yes	Off and and on from comb.temp high. Restart.
4/7/2016	1725	0.4	68H002	Yes	Off and and on from comb.temp high. Restart.
4/8/2016	2150	0.4	68H002	Yes	Off and and on from comb.temp high. Restart.
4/10/2016	0915	0.15	68H002	Yes	Actuator failure. E&I. Restart.
4/10/2016	1910	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
4/11/2016	1000	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/12/2016	1030	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
4/12/2016	1130	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/13/2016	2330	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/14/2016	0045	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
4/15/2016	1130	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/21/2016	1657	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
4/22/2016	0323	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
4/22/2016	1723	2.5	68H002	Yes	High combustion temp. Restarted. Flare on.
4/26/2016	1415		68H002	Yes	High combustion temp. Restarted. Flare on.
4/26/2016	1915		68H002	Yes	High combustion temp. Restarted. Flare on.
4/26/2016	2056		68H002	Yes	High combustion temp. Restarted. Flare on.
4/26/2016	2251	3.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/27/2016	0007	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
4/28/2016	0020	0.4	68H002	Yes	High combustion temp. Restarted. Flare on.
4/28/2016	0250	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/28/2016	0427	4.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/28/2016	1400	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
4/29/2016	0630	4.5	68H002	Yes	Auto valve combustion blower replaced.
4/29/2016	1530	0.3	68H002	Yes	High combustion temp. Restarted. Flare on.
4/30/2016	0255	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
4/30/2016	1817	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
5/1/2016	0747	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
5/2/2016	0416	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
5/2/2016	1448	0.3	68H002	Yes	High combustion temp. Restarted. Flare on.
5/2/2016	1528	0.2	68H002	Yes	High combustion temp. Restarted. Flare on.
5/2/2016	1610	0.3	68H002	Yes	High combustion temp. Restarted. Flare on.
5/3/2016	0122	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
5/9/2016	1610	0.2	68H002	Yes	High combustion temp. Restarted. Flare on.
5/12/2016	1727	1.5	68H002	Yes	High combustion temp. Restarted. Flare on.
5/13/2016	1200	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
5/13/2016	1909	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
5/13/2016	2140	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
5/19/2016	0800	0.25	68H002	Yes	Shut down. Changed insert on process blower
6/2/2016	1730	0.25	68H002	Yes	High combustion temp. Restarted. Flare on.
01CE01 & 01CE02					
1/7/2016	1633	0.5	Polaris	Yes	Power lost. Restarted.
1/18/2016	0247	0.5	Polaris	Yes	High level P-01.Frozen, thawed it out, pumped out. Restarted.
1/23/2016	1530	1.0	Polaris	Yes	Blower off. Reset restarted.
1/23/2016	2029	1.0	Polaris	Yes	Fan stopped. No flow. Restarted.
1/23/2016	2202	0.5	Polaris	Yes	Fan stopped. No flow. Restarted.

1/24/2016	0000	7.0	Polaris	Yes	Fan stopped off/on. No flow. Restarted.
1/24/2016	0730	5.0	Polaris	Yes	Epsilon resetting off/on.
1/24/2016	1343	1.0	Polaris	Yes	Liquid in blower. Drained and started.
2/8/2016	0930	2.0	Polaris	Yes	XV-12 not opening. Bad fuse to air supply for valve.
2/11/2016	0135	0.5	Polaris	Yes	V02 tank full. Blower stopped. Reset, pumped.
3/20/2016	0451	0.6	Polaris	Yes	Blower stopped. Restarted.
4/4/2016	2026	0.5	Polaris	Yes	Blower stopped. Restarted.
4/27/2016	1500	1.0	Polaris	Yes	TT-23 high temp. Restarted.
6/20/2016	1755	0.5	Polaris	Yes	Alert pressure drop DPI - 09. Reset restarted

Notes:

Omitted from the Attachment A. SSMP list are a number of minor events involving the cryogenic condenser (duration < 0.5 hr) that did not effect emissions. The system is passive and contains a large reserve of refrigeration capacity. Even when the unit shuts down vent gases continue to pass through the system at temperatures well below the limit.

ATTACHMENT B**Detailed Information On CMS Downtime**

Control Device	Monitor ID	Date	Time	Duration, hrs
68H002	68TT300_3	03/13/2016	02:00	1.25
68H001	68TT6001	03/13/2016	02:00	1.25
68H002	68TT300_3	04/04/16	16:42	1.25
68H001	68TT6001	04/04/16	16:42	1.25

Note:

CMS for the TOx & Flare was lost for 2.5 hrs due to RS view communication loss to the server from power outages. During each event the control devices maintained performance test temperature limits (~ 1500 F TOx).

ATTACHMENT C**Information On Deviations On Systems With CMS**

Table 63.2520 (e) (5) (iii) (C) Thermal Oxidizer 68H002 Start/End Date and Times of Temperature Deviations.					
Date of Deviation	Deviation Start Time	Deviation End Time	Duration, hrs	Cause	SSM?
No deviations from the temperature limit specified in Table 63.2520 (e) (5) (iii) (I)					

Table 63.2520 (e) (5) (iii) (C) 01CE01 & 01CE02 Cryogenic Condenser Start/End Date and Times of Temperature Deviations.					
Date of Deviation	Deviation Start Time	Deviation End Time	Duration	Cause	SSM?
06/11/16	12:00	23:59	24	Nitrogen supply	No shutdown
06/13/16 – 06/18/16	6/13/16 – 12:00	6/18/16 – 15:00	128	Nitrogen supply	No shutdown
06/20/16	12:00	23:59	24	Nitrogen supply	No shutdown
06/22/16 – 06/25/16	6/22/16 – 12:00	6/25/16 – 15:00	80	Nitrogen supply	No shutdown
06/27/16 – 06/28/16	6/27/16 – 12:00	6/28/16 – 23:59	48	Nitrogen supply	No shutdown

Copies of Operating Logs of Sources Using CMS for Compliance

ATTACHMENT D

95%
23/13/2016

Received tomorrow from John

Blew down Boiler

Completed Equipment Check sheet
- Pumped V441 Dike to V441

V340 leak more because of level

eye to dash valve runs in dike

Xfered 1 foot from V441 to V584

and stripped it (to keep tank low) 1386

and empty Dike - so V340 pump stays 1743

Dry Cotten resampled - put in Lab. Ray Put in

Ray wanted to resample V340 before Los Boer

Sending it out the level changed

John can you fast it before Monday

pull sample

- Pick up trash from behind shop

- Moved some of the empty dikes

with Phil after he pumped them

in V361

- Can you give Kevin our sheet if

will not contact to wife

- I can not back up check sheet

- get truck in to get sludge

Container - Door broke on it that

talked to WOTF last week

- moved the Drums of column packing

from behind Shopper and used

and Drum

- Put the sludge on Boilers

- Completed House keeps sludge

- Can you add oil to the Hyd oil

pump the oil is low

John

*

Church

-

-

-

-

-

-

Church

I will be in at 04:00 on

Monday I will fast if things change

- 1st Church 04/04/2014
- Received furnace from John
- Started filling county hq TK
- Went over equip. sheet with Ty M. & ALI.
- on #5 & #6 chiller. Also showed them
- how to check freeze points. -16°
- pulled weekly hq samples
- picked up oil buckets out of #6 chiller,
- drained oil & threw filter away in
- wait. Roll 05
- Process hq sample Sealed. Blowing down
- cooling tower & refilling with process hq
- to try & flush out TK-101B
- worked on Environmental #5 for Vince C.

- Chris
- oil oil/gas
- and
- Received furnace from Church
- Blew down #2 Boiler
- Completed Equipment Checklist
- Completed House keep. Form
- Got key and pin from Guard
- When Parts room complete time for maintenance
- Pulled V360 sample
- 135m 31
- 83x 120 15.7
- 257m 3
- 94H 16.3
- Stop Blowing down cooling tower until
- 10:30 so I could start V360
- Cryo shut down logged in
- Pick up Alkal meter from Soffy in
- On Thurs, Fri Day shift
- There is work being done in Alkal/Beta
- 2nd Floor Seoffy it is the only
- Time here and for 115 to work on it

- Per Scott pulled PJ well
had sample/loss in lab (Fail)
have printout on desk
Stop Xerox V340 to unit
Started Blowing down Cooling tower
at end of shift
- John
04/07/2014
Received turnover from Chris.
Chiller Comp. 3B down low oil. Re started
Reset The RO unit. 2XS
Reset 3B High temp.
Chiller 4 went from -16 to -4 in 10 mins
Blew down boilers.
Turned keys and phone into guard shack.
- Church
4/5/14
1st
Received turnover from John
Wrote W.O. for changing R.O. filter
Changed filters
lowered set point on 4-C. loaded 100.
running 400 amps & cooling down
Put in Reg. for two new chemical
feed pumps for boilers
Worked on Mac for boiler chemical
feed pumps
Worked on AT, LT, FTT, list for
Rosa. Green tags needed.

FLARE 68-H001

	Valve Position			Pressures				Level		Flare Gas (Totalized)	Blower Status	Flare Temp (F)
	To Flare HV-6011	To Vent HV-6010	Blower By-Pass HV-6012	Flare Header Pipe (in.W.C)	Flame Arrestor Differential (in.W.C)	Main Gas Pressure (psig)	Pilot Gas Pressure (psig)	Knock Out Pot (in.)	Cond. Pot @ DI Dike (in.)			
Target	OPEN	CLOSED	O/C	-2	< 6	15 - 20	15 - 20	< 6	< 6		ON	1400 - 2200
Shift: Initials: <u>CB</u>	<u>C</u>	<u>C</u>	<u>C</u>					<u>0</u>	<u>0</u>	<u>875975</u>	<u>OFF</u>	<u>1532</u>

THERMAL OXIDIZER 68-H002

	Valve Position			Pressures				Comb. Air % FCV 300 1	Cond. Pot @ DI Dike (in.)	Flame Arrestor Inlet TE-100-1 (F)	Flare Stack Temp (F)	FT-6022 Process Flow (SCFM)	O ₂ %
	To TOX FCV 100-1B	To Vent HV 601-OA	To Ground Flare HV-6022	Filter Sock Differential (in.W.C.)	Flame Arrestor Differential (in.W.C.)	Dilution Air % FCV 400-1	VFD% Speed DPAL 100-1						
Target	OPEN	CLOSED	O/C						< 6	< 250	1475 - 1900	0 - 700	0 - 21
Shift: Initials: <u>CB</u>	<u>0</u>	<u>C</u>	<u>C</u>	<u>-1.9</u>	<u>5</u>	<u>100%</u>	<u>60</u>	<u>41</u>	<u>0</u>	<u>6.6</u>	<u>1501</u>	<u>125</u>	<u>67</u>

Notes: _____

8/17/2016 12:55:17 PM

Page: 1

3V Inc. WORK ORDER - NORMAL

Work Order: 118915

Description: auto valve XV-12

Asset ID: CE-01-68	Model:	Sch Date: 2/8/2016
Asset: Cryogenic Condenser System	Serial No:	Add Date: 2/8/2016 10:20:18 AM
Procedure: LOCK-OUT/TAG-OUT AND SAFETY INS	Location: COOLING TOWER	Priority: 0
Master WO ID	Building: Gen Serv	Shift:
Requested By rchurch	Floor:	Room:
Telephone:	Elec Line:	Supervisor:
Request ID: 12901	Asset ShutDn: <input checked="" type="checkbox"/> Plant ShutDn: <input checked="" type="checkbox"/>	Status: Completed
Warranty: UnExp. Warr		Skill:
		Assigned To: JAMES COLEMAN

Labor:		Assigned To	Cost ID	Est Hrs	Rem Hrs	Reg	Over	Double	Other	Date
Craft Description	Labor Description									
Electrician		<input checked="" type="checkbox"/>		1.00	0.00					/ /

Task: 1 ID: 1A SAFETY SECTION Description: Lock out Tag Out Tech findings

Safety: ☒ Text: -----Planner, Maint or E&I Supervisor, or Technical Services Manager:-----Is this work covered by an RFC? ☐ No ☐ Yes RFC#: _____
Explain to the technician(s) what change(s) are covered by the RFC. ☐

To be completed by the millwright:

Is this a direct change out? Same make, model, manufacturer, etc. ☐ Yes ☐ No

If no and the change is not specified in the RFC covering this job, an RFC must be generated. Do not proceed with the work

Mobile/Lift Equipment required: Is operator(s) trained on mobile/lift equipment? ☐ Yes ☐ NoForklift ☐ ☐ Yes ☐ No Man Lift ☐ ☐ Yes ☐ No Lull ☐ ☐ Yes ☐ NoVRC Lift (Pflow) ☐ ☐ Yes ☐ No ☐ Boom Truck ☐ ☐ Yes ☐ No Scissors Lift ☐ ☐ Yes ☐ NoCrane ☐ ☐ Yes ☐ No OTHER ☐ ☐ Yes ☐ No _____

-----To Be Completed By Plant Supervision Prior to Work Initiation:-----

General:

Plant Running ☐ ☐ ☐ ☐ ☐ Yes ☐ No Other Work Adjacent to this Work ☐ ☐ Yes ☐ NoIsolated Work Area With Barricade ☐ ☐ Yes ☐ NoUnderground Hazards Identified/Marked? ☐ ☐ Yes ☐ No

Hazards: (if Yes, list Hazards in/on/around immediate area)

Flammables/Hazardous Chemicals Within _____ FT

Electrical ☐ ☐ No Yes: _____ Chemical ☐ ☐ No Yes: _____Pneumatic ☐ ☐ No Yes: _____ Mechanical ☐ ☐ No Yes: _____Temperature ☐ ☐ No Yes: _____

If permits are required, record permit number:

Line Break ☐ ☐ No Yes: _____ LO/TO ☐ ☐ No Yes: _____Hot work ☐ ☐ No Yes: _____ Confined Space ☐ ☐ No Yes: _____

Plant Supervisor Responsible for Completing Safety Instructions:

Print Name ☐ ☐ Signature Required

Technical Findings:

Comments: auto valve not working at cryo

Procedure Comments: LINED UP PROC SWITCHES
RUNNING FINE.

Completion Information:

Due Count/Meter

Date: <input type="text"/>	Supervisor: <input type="text"/>	Time On: <input type="text"/>	Current Count: <input type="text"/>	0
Shift: <input type="text"/>	Down Time: <input type="text"/>	Time Off: <input type="text"/>	Current Meter: <input type="text"/>	0

8/17/2016 12:55:27 PM

Page: 1

3V Inc.

WORK ORDER - NORMAL

Work Order: 118922

Description: change steam trap

Asset ID:	CE-01-68	Model:	Sch Date:	2/8/2016	
Asset:	Cryogenic Condenser System	Serial No:	Add Date:	2/8/2016 12:38:16 PM	
Procedure:	LOCK-OUT/TAG-OUT AND SAFETY INS	Location:	COOLING TOWER	Priority:	0
Master WO ID		Building:	Gen Serv	Shift:	
Requested By	R. Church	Floor:		Room:	
Telephone:		Ext:		Supervisor:	
Request ID:	12908	Elec Line:		Status:	Open
Warranty:	UnExp. Warr	Asset ShutDn:	<input checked="" type="checkbox"/>	Plant ShutDn:	<input checked="" type="checkbox"/>
				Skill:	
				Assigned To:	

Task: 1	ID: 1A SAFETY SECTION	Description: Lock out Tag Out Tech findings
---------	-----------------------	---

Safety: ☒ Text: -----Planner, Maint or E&I Supervisor, or Technical Services Manager:-----

Is this work covered by an RFC? ☐ No ☐ Yes RFC#: _____

Explain to the technician(s) what change(s) are covered by the RFC. ☐

To be completed by the millwright:

Is this a direct change out? Same make, model, manufacturer, etc. ☐ Yes ☐ No

If no and the change is not specified in the RFC covering this job, an RFC must be generated. Do not proceed with the work

Mobile/Lift Equipment required: Is operator(s) trained on mobile/lift equipment? ☐ Yes ☐ No

Forklift ☐ ☐ Yes ☐ No Man Lift ☐ ☐ Yes ☐ No Lull ☐ ☐ Yes ☐ No

VRC Lift (Pflow) ☐ ☐ Yes ☐ No Boom Truck ☐ ☐ Yes ☐ No Scissors Lift ☐ ☐ Yes ☐ No

Crane ☐ ☐ Yes ☐ No OTHER ☐ ☐ Yes ☐ No

-----To Be Completed By Plant Supervision Prior to Work Initiation:-----

General:

Plant Running ☐ ☐ ☐ ☐ ☐ Yes ☐ No Other Work Adjacent to this Work ☐ ☐ Yes ☐ No

Isolated Work Area With Barricade ☐ ☐ Yes ☐ No

Underground Hazards Identified/Marked? ☐ ☐ Yes ☐ No

Hazards: (if Yes, list Hazards in/on/around immediate area)

Flammables/Hazardous Chemicals Within _____ FT

Electrical ☐ ☐ No Yes: _____ Chemical ☐ ☐ No Yes: _____

Pneumatic ☐ ☐ No Yes: _____ Mechanical ☐ ☐ No Yes: _____

Temperature ☐ ☐ No Yes: _____

If permits are required, record permit number:

Line Break ☐ ☐ No Yes: _____ LO/TO ☐ ☐ No Yes: _____

Hot work ☐ ☐ No Yes: _____ Confined Space ☐ ☐ No Yes: _____

Plant Supervisor Responsible for Completing Safety Instructions:

Print Name ☐ ☐ ☐ ☐

Signature Required

Technical Findings:

Comments: change steam trap on cryo

Completion Information:					<u>Due Count/Meter</u>
Date:	<input type="text"/>	Supervisor:	<input type="text"/>	Time On:	<input type="text"/>
				Current Count:	<input type="text"/>
Shift:	<input type="text"/>	Down Time:	<input type="text"/>	Time Off:	<input type="text"/>
				Current Meter:	<input type="text"/>
					0
					0

8/17/2016 12:55:42 PM

Page: 1

3V Inc.

WORK ORDER - NORMAL

Work Order: 121419

Description: Instrumentation, repair TV-03 on Cryo

Asset ID:	CE-01-68	Model:	Sch Date:	6/24/2016
Asset:	Cryogenic Condenser System	Serial No:	Add Date:	6/24/2016 8:38:28 AM
Procedure:	LOCK-OUT/TAG-OUT AND SAFETY INS	Location:	Priority:	0
Master WO ID		Building:	Shift:	
Requested By	wcox	Floor:	Supervisor:	
Telephone:		Ext:	Status:	Open
Request ID:	15320	Elec Line:	Skill:	
Warranty:	UnExp. Warr	Asset ShutDn:	<input checked="" type="checkbox"/>	Plant ShutDn:
			<input checked="" type="checkbox"/>	Assigned To:

Task: 1 ID: 1A SAFETY SECTION Description: Lock out Tag Out Tech findings

Safety: ☒ Text: _____Planner, Maint or E&I Supervisor, or Technical Services Manager:_____Is this work covered by an RFC? ☐ No ☐ Yes RFC#: _____
Explain to the technician(s) what change(s) are covered by the RFC. ☐

To be completed by the millwright:

Is this a direct change out? Same make, model, manufacturer, etc. ☐ Yes ☐ No

If no and the change is not specified in the RFC covering this job, an RFC must be generated. Do not proceed with the work

Mobile/Lift Equipment required: Is operator(s) trained on mobile/lift equipment? ☐ Yes ☐ NoForklift ☐ ☐ Yes ☐ No Man Lift ☐ ☐ Yes ☐ No Lull ☐ ☐ Yes ☐ NoVRC Lift (Pflow) ☐ ☐ Yes ☐ No Boom Truck ☐ ☐ Yes ☐ No Scissors Lift ☐ ☐ Yes ☐ NoCrane ☐ ☐ Yes ☐ No OTHER ☐ ☐ Yes ☐ No _____

_____To Be Completed By Plant Supervision Prior to Work Initiation:_____

General:

Plant Running ☐ ☐ ☐ ☐ ☐ Yes ☐ No Other Work Adjacent to this Work ☐ ☐ Yes ☐ NoIsolated Work Area With Barricade ☐ ☐ Yes ☐ NoUnderground Hazards Identified/Marked? ☐ ☐ Yes ☐ No

Hazards: (if Yes, list Hazards in/on/around immediate area)

Flammables/Hazardous Chemicals Within _____ FT

Electrical ☐ ☐ No Yes: _____ Chemical ☐ ☐ No Yes: _____Pneumatic ☐ ☐ No Yes: _____ Mechanical ☐ ☐ No Yes: _____Temperature ☐ ☐ No Yes: _____

If permits are required, record permit number:

Line Break ☐ ☐ No Yes: _____ LO/TO ☐ ☐ No Yes: _____Hot work ☐ ☐ No Yes: _____ Confined Space ☐ ☐ No Yes: _____

Plant Supervisor Responsible for Completing Safety Instructions:

Print Name_____
Signature Required

Technical Findings:

Comments: Instrumentation, repair TV-03 on Cryo

Completion Information:

Due Count/Meter

Date:	<input type="text"/>	Supervisor:	<input type="text"/>	Time On:	<input type="text"/>	Current Count:	<input type="text"/>	0
Shift:	<input type="text"/>	Down Time:	<input type="text"/>	Time Off:	<input type="text"/>	Current Meter:	<input type="text"/>	0

Chris
03/14/2011
Received turnover from Church
Received 4 Bottles of Raa from
United Refrigigeration - then gave them
4 empty
Scott called about TX - when
the steel had been installed - 1/10/11
Times of 3/14/2011
Tox 5/11/11

Church 3/14/11 1st
Received turnover from John
Reset Tex down on high temp
Worked on getting Beta back on
#4 chiller. Started chiller closed
valves in high line, pulled pancake
a started MP 329 A. Work with Maui
Tox down again high temp. Restarted
Took pictures of Cyo + gave to Scott
Tox down again Flame Failure. Restarted
Sending V-300 to Waukegan
Jilling county go TK
Moved chiller training forms into Rosa

John
03/13/2011
Received turnover from Chris.
Moved the Glycol pots from the Service ISIC
to be kind the shop.
Closed the County water valve to the
tank (High level)
Blow down both boilers.
Hydrogen truck made a delivery.
Walked through plants.
Turned in keys, phone.

ATTACHMENT E**New Operating Scenarios**

Beginning on 6/6/16 – 6/30/2016 3V Sigma USA began manufacturing a new product Plastol H in existing equipment previously used for the Regal 2B manufacturing process regulated under the Pharma MACT. Plastol H is a UV-absorber applied in plastics formulations.

The environmental regulatory department submitted a 502b10 Title V Operational Permit Flexibility notification to James Robinson PE - SC DHEC BAQ Engineering Services documenting the change. Plastol H manufacturing decreased overall facility HAP, TAP, and VOC emissions. This is due to the fact the Plastol H process requires significantly less xylene (raw material – HAP) than Regal 2B production. In the future 3V Sigma will continue to campaign between Plastol H and Regal 2B production. At no time will both processes operate in parallel.

Plastol H manufacturing – See submitted 502b10 Operational Flex Notification submitted to SC DHEC BAQ Engineering Services					
<u>MCPU</u>	<u>Process</u>	<u>Equip ID</u>	<u>Use</u>	<u>Category</u>	<u>Control Device</u>
04 – Alpha/Beta/Epsilon Plant	Plastol H	R301	Reactor 301	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	V301	R301 accumulator	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	R101	Reactor 301	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	R305	Reactor 305	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	R308	Reactor 308	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	R302A	Reactor 302A	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	SE301	Crystallizer 301	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	TF318	Filtration of product	n/a	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	V349	Dist accumulator	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Plastol H	V313A	Vessel 313A	HAP	68H002

<u>MCPU</u>	<u>Process</u>	<u>Equip ID</u>	<u>Use</u>	<u>Category</u>	<u>Control Device</u>
09 – Tank Farm (Kb Tanks)	Plastol H	V324A	Xylene tank	HAP	68H002
09 – Tank Farm (Kb Tanks)	Plastol H	V324B	Xylene tank	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Recovery xylene from Plastol H	VA534	Mixing vessel 534	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Recovery xylene from Plastol H	C505	Recovery column 505	HAP	68H002
04 – Alpha/Beta/Epsilon Plant	Recovery xylene from Plastol H	V583	Reflux accumulator for C505	HAP	68H002

Subpart UU LDAR Report

ATTACHMENT F

SEMIANNUAL COMPLIANCE REPORT FOR MON LDAR PROGRAM**REPORTING PERIOD:****1 Jan to 30 June 2016****63.1039 Report Requirement b (1)**

b(1)(i) VALVES: Unit ID's 04, 05, 06, 07, 08, 09	
Monitoring Dates:	See Reporting Period.
No. Valves Monitored During Period:	0
No. Valves Leaking During Period:	0
No. of Valves - Leak Not Repaired:	0
Monitored Valve Leakage Rate:	#DIV/0! <i>vs.</i>
Required Monitoring Frequency:	Annually

b(1)(ii) PUMPS: All Subpart FFFF Units							
Date Monitored:	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Total
No. Pumps Monitored During Period:	65	93	82	77	87	76	480
No. Pumps Leaking During Period:	0	0	0	0	0	0	0
No. Pumps Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Pumps for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(iii) CONNECTORS (In accordance with 63.2480(b)(4), the facility will comply with 63.1029)
No reporting required.

b(1)(iv) AGITATORS All Subpart FFFF Units							
Date Monitored:	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Total
No. Agitators Monitored During Period:	34	34	35	47	34	28	212
No. Agitators Leaking During Period:	0	0	0	0	0	0	0
No. Agitators Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Agitators for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(v) COMPRESSORS

No compressors in HAP service.

(b)(2) Delay of Repair.

No. of Delay of Repair Events: 0

(b)(3) Valve Subgrouping Information of 63.1025(b)(4)(I)

Not Applicable

(b)(4) PRESSURE RELIEF DEVICES GV SERVICE

Date of Test: None

Concentration [ppm]: NA

(b)(5) Initiation of monthly monitoring for valves:

Not Applicable

(b)(6) Quality improvement program for pumps

Not required due to low leak rate for pumps.

(b)(7) Alternative means of emission limitations.

Pressure test report attached.

(b)(8) No units with later compliance dates at the facility.

ATTACHMENT F
ADDENDUM 1
FID MONITORING DETAIL

FID MONITORING DETAILS BY AREA

Jan-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	21	0	0	0	14	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	12	0	0	0	0	0	0	0
09 & 10 - Tank Farm	16	0	0	0	0	0	0	0
Totals	76	0	0	0	34	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Feb-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	27	0	0	0	14	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	20	0	0	0	0	0	0	0
09 & 10 - Tank Farm	19	0	0	0	0	0	0	0
Totals	93	0	0	0	34	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Mar-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	25	0	0	0	15	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	11	0	0	0	0	0	0	0
09 & 10 - Tank Farm	19	0	0	0	0	0	0	0
Totals	82	0	0	0	35	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Apr-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	27	0	0	0	27	0	0	0
05 - Gamma	0	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	17	0	0	0	0	0	0	0
09 & 10 - Tank Farm	19	0	0	0	0	0	0	0
Totals	77	0	0	0	47	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

May-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	27	0	0	0	14	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	14	0	0	0	0	0	0	0
09 & 10 - Tank Farm	19	0	0	0	0	0	0	0
Totals	87	0	0	0	34	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Jun-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	19	0	0	0	8	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	11	0	0	0	0	0	0	0
09 & 10 - Tank Farm	19	0	0	0	0	0	0	0
Totals	76	0	0	0	28	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

LEAK LOG FOR MON REPORT JAN 1, 2016 - JUNE 30, 2016							
Leak Date	Component	Equipment	Initial Reading (ppm)	First Attempt Date	Final Repair Date	Final Reading (ppm)	Comments
No leaks monitored during reporting period							

ATTACHMENT F**ADDENDUM 3
PRESSURE TEST REPORT**

Annual pressure testing of storage tanks and process equipment completed during this reporting period are included in the following attachment. Any storage tank that was not tested during the first half of 2016 will be tested and reported on the next semi-annual report

Process equipment is being checked using method 21, and the components checked are included in Subpart UU report. Pressure testing is not being used as a compliance method for process equipment.

PRESSURE TEST REPORT FOR PERIOD JAN 1, 2016 TO JUNE 30, 2016

Eq. ID	No. Tests	No. Fails	Facts Re DoR	Date
02TK210	26	0	main TF	weekly
03C305	1	0	a/b	3/16/16
03D130	1	0	a/b	3/16/16
03D131	1	0	a/b	1/4/16
03D301	n/a	n/a	a/b (not in use)	n/a
03FP301	1	0	a/b	1/4/16
03FP303	1	0	a/b	1/4/16
03FP401	1	0	a/b	3/16/16
03R101	1	0	a/b	1/4/16
03R150	n/a	n/a	a/b (not in use)	n/a
03R151	1	0	a/b	1/4/16
03R301	1	0	a/b	1/4/16
03R302A	1	0	a/b	1/4/16
03R302B	1	0	a/b	3/16/16
03R304	1	0	a/b	3/16/16
03R305	1	0	a/b	1/4/16
03R307	1	0	a/b	1/4/2016
03R308	1	0	a/b	1/4/16
03SE301	1	0	a/b	1/4/16
03SE302	1	0	a/b	1/4/16
03TK111	1	0	a/b	1/4/16
03TK311	n/a	n/a	main TF (no HAP)	n/a
03TK338	n/a	n/a	main TF (no HAP)	n/a
03TK382	n/a	n/a	main TF (no HAP)	n/a
03V322	n/a	n/a	a/b (no HAP)	n/a
03V323	1	0	a/b	1/4/16
03V324A	1	0	a/b	1/4/16
03V358	1	0	a/b	3/16/16
03V375	1	0	a/b	3/16/16
03V376	1	0	a/b	3/16/16
03V380	n/a	n/a	a/b (no HAP - WW)	n/a
03VA301	1	0	a/b	1/4/16
04R403	1	0	gamma	4/20/16
04R406	1	0	gamma	5/23/16
04TK411	26	0	main TK farm	weekly
05C503	1	0	epsilon	5/26/16
05C504	1	0	epsilon	1/25/16
05C505	1	0	epsilon	1/24/16
05TK519	26	0	main TK farm	weekly
05V575	1	0	epsilon	5/26/16
05V576	1	0	epsilon	5/26/16



888 Woodstock St. Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0201

February 28, 2017

Ms. Denise Hall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Hall:

Enclosed is the second half 2016 semi-annual report for 3V Sigma USA. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair'. The signature is stylized with a large, sweeping 'S' and a cursive 'McNair'.

Scott McNair
VP of Plant Management

Patrice Lackey

From: Vince Centioni
Sent: Friday, February 24, 2017 10:08 AM
To: Scott McNair
Cc: Patrice Lackey; Brandon McClellan; Steven Varone
Subject: MON semi annual

Scott,

This will be completed by today and placed into your mail box for signature review. It needs to be cert mailed by Tuesday next week 16:30

Addressed to:

Ms. Denise Hall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Vince Centioni
Environmental Manager



888 Woodstock St.
Georgetown, SC 29440
Office: 843-520-5128
Mobile: 843-240-0577
Email: v.centioni@3VSigmaUSA.com

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which they are addressed. If you have received this email in error please notify the system manager. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the Company. Finally, the recipient should check this email and any attachments for the presence of viruses. The Company accepts no liability for any damage caused by any virus transmitted by this email.



888 Woodstock St. Georgetown, SC 29440
TEL: 843-546-8556 FAX: 843-546-0201

February 28, 2017

Ms. Denise Hall
Bureau of Air
SC Dep't of Health and Env. Control
2600 Bull St.
Columbia, SC 29201

Dear Ms. Hall:

Enclosed is the second half 2016 semi-annual report for 3V Sigma USA. for the MON. If there are any questions please contact me at 843.520.5146 (s.mcnaair@3vusa.com) and/or Vince Centioni at 843.520.5128 (v.centioni@3vusa.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott McNair'.

Scott McNair
VP of Plant Management

SUBPART FFFF (MON) COMPLIANCE REPORT

Semiannual Report

for

3V Sigma USA

Covering

July 1st, 2016

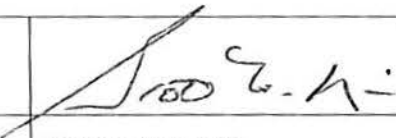
through

December 31st, 2016

Submitted on February 28th, 2017

MON Compliance Report

63.2520 (e) (1) Company Name and Address	
Company Name	3V, Sigma USA.
Street Address	888 Woodstock Street
City, State Zip Code	Georgetown, SC 29440
Mailing Address:	888 Woodstock Street
City, State Zip Code	Georgetown, SC 29440
Contact Person	Vince Centioni
Title	Environmental Manager
Telephone	843.520.0128
Fax	843.546.0007

63.2520 (e) (2) Certification of Truth, Accuracy, and Completeness	
Last Name	McNair
First Name	Scott
Title	Plant Manager
Telephone	843-520-0146
Fax	843-520-0201
I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.	
Name (signed)	
Name (printed)	Scott McNair
Date	02/28/2017

63.2520 (e) (3) Date of Report; Reporting Period	
Date Report Submitted:	February 28, 2017
Start of Reporting Period:	July 1, 2016
End of Reporting Period:	December 31, 2016

TABLE OF CONTENTS

1. INTRODUCTION
2. MON COMPLIANCE REPORT RESPONSES
3. ATTACHMENTS
 - A. Excess Emission Events from Start Up, Shutdowns or Malfunctions
 - B. Information On Deviations For Systems Without CMS
 - C. Information On Deviations On Systems With CMS
 - D. Copies of Operating Logs of Sources Using CMS for Compliance (68H002 Thermal Oxidizer).
 - E. Operating Scenarios
 - F. Report for Subpart UU (LDAR Summary).

1. INTRODUCTION

3V Sigma USA is subject to the Miscellaneous Organic NESHAP 40 CFR Part 63 Subpart FFFF for organic chemical manufacturing processes in unit ID's 04, 05, 06 and 07. The facility is also subject to the Pharmaceutical MACT 40 CFR Part 63 Subpart GGG in unit ID 04. The purpose of this notification is to document the facility's compliance status with Subpart FFFF.

This report has been formatted by following the periodic report section of Subpart FFFF located in 63.2520 (e). Specific CFR citations are listed in their order with a response to each. In some cases it was convenient to prepare the information requested in a separate report. In these cases that report is provided as an attachment.

2. MON COMPLIANCE REPORT RESPONSES

63.2520 (e) (4) *Records showing that for each SSM during which excess emissions occurred, procedures specified in the SSMP were followed. Documentation of actions taken that were not consistent with SSMP. Brief description of each malfunction.*

Provided in Attachment A is a list SSM events that may have resulted in excess emissions. This list comprises all events involving a malfunction or shutdown of control devices. The facility SSM Plan requires operators to reduce production activity to minimize emissions during control device service interruption until the unit can be restarted or back-up systems can be put in place.

During the reporting period there were scheduled holiday production shutdowns on July 4th, Labor Day, Thanksgiving, and Christmas. Also there was a mandatory Hurricane Matthew 2 day facility shut down on October 6th and 7th. The normal weekly production schedule was Monday – Saturday, except occasional Saturday shutdowns. The week after the Hurricane Matthew shut down the facility operated the next full weekend at 100 % manufacturing to compensate for the downtime.

On September 8th 2016, after a thorough inspection & investigation, operations deemed the thermal oxidizer unsafe to restart/ignite. The entire unit burner assembly and refractory combustion chamber was damaged beyond repair. Production continued venting/operating by using backup device – 68H001 Flare throughout the reporting period. TOX, Flare, and Cryogenic condenser CMS stopped on 08/22/16 & 8/23/16 due to RS view communication loss to the server from a network power outage caused by an apparent lightning strike. During each CMS event the control devices maintained performance test temperature limits (~ 1500 F TOx & - 130 F 01-CE01/01-CE02).

The facility nitrogen supplier – Air Liquide installed a check valve on the pipe that supplies liquid nitrogen from the storage tank to 01CE-01/01 CE-02. The valve was wrapped in 8 inches of insulation thereby making it unaware to facility personnel. On June 10th around 14:00 the Air Liquide check valve broke and the liquid nitrogen flow was restricted from the storage tank to CE-01/02. The failure caused the facility to exceed controlled monitoring device daily avg temperature limits on July 12th, 13th, 14th, 15th, 18th, 19th, and 20th. The daily average limit was established by engineering design evaluations and initial control device performance tests. A maintenance record summary spreadsheet is attached. See Table 63.2520(e)(5)(iii)(L).

63.2520 (e) (5) (i) *Statement indicating there were no deviations from any emission limit, operating limit, or work standard during the reporting period.*

Not Applicable.

63.2520 (e) (5) (ii) *For each deviation from an emission limit, operating limit, and work standard that occurred at an affected source where CMS is NOT used to comply with same provide the following....*

63.2520 (e) (5) (ii) (A) *Total operating time of the affected source during the reporting period,*

Total operating time during reporting period was 3312 hours.

63.2520 (e) (5) (ii) (B) *Information on number, duration, and cause of deviations, and corrective action taken for deviations including periods of SSM.*

No deviations from systems where CMS is NOT used to comply with regulations.

63.2520 (e) (5) (ii) (C) *Copies of operating logs of processes with batch vents from batch operations on day(s) during which deviation occurred for those deviations from emission limits, operating limits, and work standards, occurring at an affected source where CMS is NOT used to comply with same. Include periods of SSM.*

Not applicable.

63.2520 (e) (5) (iii) *For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, include the following information:*

63.2520 (e) (5) (iii) (A) *Dates and times that each CMS was inoperative for sources where CMS is used to comply with emission limits and operating limits.*

See Attachment B for CMS downtime details.

63.2520 (e) (5) (iii) (B) *Date, time, and duration that each CMS was out-of-control.*

No periods of CMS out-of-control during this reporting period.

63.2520 (e) (5) (iii) (C) *Date and time that each deviation started and stopped, and information on whether the deviation occurred during SSM, for deviations at sources where CMS is used to comply with emission limits and operating limits.*

See Attachment C.

63.2520 (e) (5) (iii) (D) *Summary of the total duration of deviations occurring during the reporting period, and total duration as a percent of the total operating time*

of the affected source where CMS is used to comply with emission limits and operating limits.

See the table that follows.

Table 63.2520 (e) (5) (iii) (D) Summary of Total Duration of Deviations Occurring During the Reporting Period, and Total Duration as a Percent of the Total Operating Time			
Parameter	Monitor	Duration of Exceedances, hr	Percentage of exceedances, %
01CE-01/01-CE-02 (CryoCond temp)	TI-26/TI-27	168.0	5.07
68-H001 Ground Flare temp	68TT6001	6.7	0.20
68-H002 TOx temp	68TT300-3	46.6	1.41

There are deviations from the temperature limits listed in Table 63.2520 (e) (5) (iii) (I) below from the cryogenic condenser, thermal oxidizer, and ground flare.

63.2520 (e) (5) (iii) (E) Breakdown of total duration of deviations into startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes for deviations at sources where CMS is used to comply with emission limits and operating limits.

See table that follows.

Table 63.2520 (e) (5) (iii) (E) Breakdown of Total Duration of Deviations into Various Categories - 68H001/002 & CE01/02						
Control Device	Startup	Shutdown	Control Equipment Problems, (hr)	Process Problems	Other Known Causes	Other Unknown Causes
68H001	0	0	6.7	0	0	0
68H002	0	0	46.6	0	0	0
CE01/02	0	0	168	0	0	0

63.2520 (e) (5) (iii) (F) *Summary of total duration of CMS downtime during reporting period, and as a percent of the total operating time of the affected source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (F)				
Summary of Total Duration of CMS Downtime.				
Device	Monitor	Parameter	Duration of downtime [hours]	Percentage of downtime [%]
68H001	68TT6001	Temperature	21.5	0.65
68H002	68TT300_3	Temperature	21.5	0.65
01CE01 & 01CE02	01 TI 26 & 01 TI 27	Temperature	21.5	0.65

63.2520 (e) (5) (iii) (G) *Identification of each HAP known to be in the emission stream from each source where CMS is used to comply with emission limits and operating limits.*

See table that follows.

Table 63.2520 (e) (5) (iii) (G) HAP's in Emission Streams.	
Device ID using CMS	List of Known HAP's in Emission Stream
68H002	Acetaldehyde, Acrylamide, Ethyl acrylate, Methanol, Vinyl Acetate, Xylene
01CE01 & 01CE02	Methylene Chloride

63.2520 (e) (5) (iii) (H) *Brief description of process units.*

The facility consists of batch chemical manufacturing process units, wastewater treatment units, storage tanks, and air pollution control equipment for the reduction of organic HAP's including: two thermal oxidizer units (68H001 and 68H002) and a cryogenic condenser system, 01CE01, 01CE02. All batch process vents containing methylene chloride are routed to the cryogenic condenser. For the process vents, the cryogenic condenser has been determined to be a process condenser and the vents are collectively Group 2. For storage tanks the cryogenic condenser has been determined to be a control device. There are no continuous process sources.

The affected source includes the MCPU's listed in the table that follows.

Table 63. 2520 (e) (5) (iii) (H) Chemical Manufacturing Processes Operating during the reporting period.	
MCPU	Chemical Manufacturing Processes
04 – Alpha/Beta/Epsilon Plant	Extrapin, Tabanol K, Tabanol NA, Tabanol G, Tabanol 5, Plastol H, Tabanol E, and Tabanol P.
05 – Gamma Plant	Tabanol 5
06 – Delta 1 Plant	Efram CR, Tabanol 1 and Tabanol 2
07 – Delta 2 Plant	Tabanol 5

63.2520 (e) (5) (iii) (I) Brief description of CMS:

There were three control devices used by the facility for compliance with Subpart FFFF during the reporting period. These include flare 68H001, thermal oxidizer 68H002 and the cryogenic condensation system 01CE01 and 01CE02. Flare 68H001 serves as a back up to the thermal oxidizer for downtime due to malfunctions and routine scheduled maintenance. The table that follows lists the continuous monitoring for each device.

Table 63.2520 (e) (5) (iii) (I) Parametric Monitoring Required for Control Devices.				
Device	Parameter	Basis for Parameter	Limit	Basis for Limit
68H001	Combustion Temperature	63.988(c)(1)	1464 °F	Average temperature from test
68H002	Combustion Temperature	63.988(c)(1)	1476 °F	Average temperature from test
01CE01	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation
01CE02	Condenser temperature	63.985(c)	-49 °F	Temperature from design evaluation

63.2520 (e) (5) (iii) (J) Date of latest CMS certification or audit:

See table that follows.

Table 63.2520 (e) (5) (iii) (J) CMS Certification/Audit Dates.		
Device ID	Monitoring Equipment	Date of Latest CMS Certification/Audit
68H002 Thermal Oxidizer	68TT300-3	07/26/2016
68H001 Ground Flare	68TT6001	07/19/2016
01CE01 Cryogenic Condenser	01TI 26	08/15/2016
01CE02 Cryogenic Condenser	01TI 27	08/15/2016

63.2520 (e) (5) (iii) (K) *Operating logs of processes with vents from batch processes for each day of a deviation where CMS is used to comply with deviations from emission limits and operating limits:*

See Attachment D

63.2520 (e) (5) (iii) (L) *Operating day average values of monitored parameters for each day during which there was a deviation for sources where CMS is used to comply with emission limits and operating limits:*

Table 63.2520 (e) (5) (iii) (L) Operating Day Average Values for Each Exceedance Date.			
Date	Device	Monitor	Average, °F
7/12/16	01 CE01/02	01TI 26 & 01TI 27	43.1
7/13/16	01 CE01/02	01TI 26 & 01TI 27	37.5
7/14/16	01 CE01/02	01TI 26 & 01TI 27	21.5
7/15/16	01 CE01/02	01TI 26 & 01TI 27	-16.5
7/18/16	01 CE01/02	01TI 26 & 01TI 27	26.8
7/19/16	01 CE01/02	01TI 26 & 01TI 27	39.8
7/20/16	01 CE01/02	01TI 26 & 01TI 27	-21.9
8/31/16	68 H002	68TT300-3	1332
9/6/16	68 H002	68TT300-3	1383
9/8/16	68 H002	68TT300-3	1473
10/31/16	68 H001	68TT6001	1406

Note:

See section **#2. MON REPORT RESPONSES** for control issues regarding the thermal oxidizer and cryogenic condenser

63.2520 (e) (5) (iv) *Records associated with each calculation required by 63.2525 (e) that exceeds an applicable HAP usage or emissions threshold:*

Emission calculations used to designate Group 2 process vents in the NOCS. No Group 2 process vents relying on HAP usage demonstration.

63.2520 (e) (6) *Statement indicating no periods of out-of-control CEMS:*

Not applicable. Facility does not use CEMS for compliance with Subpart FFFF.

63.2520 (e) (7) *New operating scenarios not already submitted:*

See Attachment E for new operating scenarios since last periodic report. Emissions from this source were included in the construction permit application for the installation of the cryogenic condensation system (CP-FJ).

63.2520 (e) (8) *Records of process units added to a PUG; records of primary product re-determinations:*

Not applicable.

63.2520 (e) (9) *Records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU, WW, and GGG of this part, and subpart F of 40 CFR 65:*

Information requested in Subpart SS is provided in sections 63.2520 (e)(5)(iii) of this report. See Attachment F for Subpart UU report.

63.2520 (e) (10) *Process changes:*

Not applicable.

ATTACHMENT A**Excess Emission Events from Start Up, Shutdowns, or
Malfunction**

Fail Date	Fail Time	Duration Hours	Unit	SSMP Followed?	Cause – Corrective Action
Thermal Oxidizer and Ground Flare					
6/2/2016	1730	0.3	68H002	Yes	High combustion temp. Restarted. Flare on.
7/21/2016	1020	1.0	68H002	Yes	High pressure. Switched sock.
7/22/2016	0818	0.1	68H002	Yes	High pressure. Restarted.
8/10/2016	2000	0.4	68H002	Yes	Flame failure. Reset restarted.
8/12/2016	0300	4.8	68H002	Yes	Burner failure. Reset restarted.
8/13/2016	0955	1.2	68H002	Yes	High combustion temp. Restarted. Flare on.
8/13/2016	1244	4.5	68H002	Yes	High combustion temp. Restarted. Flare on.
8/14/2016	1500	7.5	68H002	Yes	High combustion temp. Restarted. Flare on.
8/19/2016	0600	9.5	68H002	Yes	High combustion temp. Restarted. Flare on.
8/23/2016	1628	7.5	68H002	Yes	High combustion temp. Restarted. Flare on.
8/25/2016	0800	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
8/26/2016	0845	1.0	68H002	Yes	Change coupling. Repair. Restarted. Flare on.
8/26/2016	1940	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
8/26/2016	2107	0.5	68H002	Yes	High combustion temp. Restarted. Flare on.
8/26/2016	2236	1.0	68H002	Yes	High combustion temp. Restarted. Flare on.
8/27/2016	0010	4.5	68H002	Yes	High combustion temp. Restarted. Flare on.
8/27/2016	0840	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
8/30/2016	0720	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
8/30/2016	1038	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
8/30/2016	1310	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
9/1/2016	0505	2.5	68H002	Yes	High combustion temp. Restarted. Flare on.
9/2/2016	1850	0.1	68H002	Yes	High combustion temp. Restarted. Flare on.
9/8/2016	2223	-	68H002	Yes	Planned shutdown TOX.
9/9/2016	1336	1.0	68H001	Yes	High temp flame arrestor. Restarted.
10/31/2016	0000	9.5	68H001	Yes	Mod valve failure. E&I fixed. Restarted.
01CE01 & 01CE02					
8/4/2016	0920	0.6	Polaris	Yes	Shut down. Restarted.
8/15/2016	0730	0.5	Polaris	Yes	Replaced TT-26/27, thermocouples
9/8/2016	2215	2.5	Polaris	Yes	Drained all knock out pots. Vapor line liquid.
12/13/2016	0323	0.75	Polaris	Yes	Blower tripped. Restarted.
12/21/2016	0140	2.0	Polaris	Yes	XV-04B malfunction. Switched air line on valves.

Notes:

Omitted from the Attachment A. SSMP list are a number of minor events involving the cryogenic condenser (duration < 0.5 hr) that did not effect emissions. The system is passive and contains a large reserve of refrigeration capacity. Even when the unit shuts down vent gases continue to pass through the system at temperatures well below the limit.

ATTACHMENT B**Detailed Information On CMS Downtime**

Control Device	Monitor ID	Date	Time	Duration, hrs
01-CE01/01-CE02	TT-26/TT-27	08/22/16	14:12 – 23:59	10.0
68H002	68TT300_3	08/22/16	14:12 – 23:59	10.0
68H001	68TT6001	08/22/16	14:12 – 23:59	10.0
01-CE01/01-CE02	TT-26/TT-27	08/23/16	00:00 – 11:28	11.5
68H002	68TT300_3	08/23/16	00:00 – 11:28	11.5
68H001	68TT6001	08/23/16	00:00 – 11:28	11.5

Note:

CMS for the TOx, Flare, and Cryogenic condenser was lost for 21.5 hrs due to RS view communication loss to the server from an apparent power outage connected to an on-site facility lightning strike. During each event the control devices maintained performance test temperature limits (~ 1500 F at TOx Flare, and ~ -130 F at the Cryo).

ATTACHMENT C**Information On Deviations On Systems With CMS**

Table 63.2520 (e) (5) (iii) (C) Ground Flare 68H001 & TOx 68H002 Start/End Date and Times of Temperature Deviations.						
Date of Deviation	Device	Deviation Start Time	Deviation End Time	Duration, hrs	Cause	SSM?
08/31/16	68-H002	00:00	23:33	20.4	Burner assembly, refractory combust chamber	YES
09/06/16	68-H002	07:21	23:59	16.5	Burner assembly, refractory combust chamber	YES
09/08/16	68-H002	09:38	22:23	9.8	Burner assembly, refractory combust chamber	YES
10/31/16	68-H001	- 00:00 - 16:39	- 11:30 - 23:10	6.7	Control problem	No Shutdown

Table 63.2520 (e) (5) (iii) (C) 01CE01 & 01CE02 Cryogenic Condenser Start/End Date and Times of Temperature Deviations.					
Date of Deviation	Deviation Start Time	Deviation End Time	Duration (hr)	Cause	SSM?
07/12/16 - 07/15/16	07/12/16 - 00:00	07/15/16 - 23:59	96	Nitrogen supply	No shutdown
07/18/16 - 07/20/16	07/18/16 - 00:00	07/20/16 - 23:59	72	Nitrogen supply	No shutdown

Copies of Operating Logs of Sources Using CMS for Compliance

ATTACHMENT D

FOIA EXEMPT
Appendix E

DO NOT RELEASE

17191 94380781

—

20.87

08/22/2016

Monday 23:00 to 02

5.6
 4.4
 742

2857		
6579	16.5	17.1
5572	4.1	19.5
6577	12.1	17.1
7571	6.2	18.7
0575	1.0	12.7

595

Logged in 11/24/84 A 275

$$\begin{array}{r} 117 \\ 101 \\ \hline 1584 \end{array}$$

$$\begin{array}{r} 95 \\ 121 \\ \hline 1440 \end{array}$$

Notified Alpha/Beta
Notified again

$\frac{15.86}{100} \times 31.2 = 4.94$
 $\frac{1.8}{100} \times 31.2 = 0.56$
 $\frac{3.25}{100} \times 31.2 = 0.10$

1611	40810
0	40800
3	40800
4	40800

11586 H 274

11580	7.7	4.1
	7.7	4.1
	4.2	4.8
11580	4.2	4.8

Log 20 10 1586 1564274

115.78 — to 115.78 —
17.10 ps 2.5 ps (m/t)
2.5 ps 2.5 ps (m/t)

US75 10.2
US76 3.5
US77 17.0
US78 15.5
US79 12.4
US80 12.7
US81 14.5
US82 17.5
US83 15.5
US84 12.4
US85 12.4
US86 12.4
US87 12.4
US88 12.4
US89 12.4
US90 12.4
US91 12.4
US92 12.4
US93 12.4
US94 12.4
US95 12.4
US96 12.4
US97 12.4
US98 12.4
US99 12.4
US00 12.4

Got Results on US86 & Farming to US87
Data standing V308 to US84 H 276
Shut Down Stripper pulled US81 sample put in LAB
A in B D.54
TK310 to US77
514.9 5.24
F 11.5 F 9.2

NOTE
Truck coming for TK511 Thursday They
Took 3.5' out of V319 + 3.5' out of V318 today.
NOTE
Truck coming tomorrow for TK511 also
Cage Computer Back up

NOTE
Truck coming for TK511 Thursday They
Took 3.5' out of V319 + 3.5' out of V318 today.
NOTE
Truck coming tomorrow for TK511 also
Cage Computer Back up

Still work on line & work from USSR

for Dan

" "

" "

for Dan

Replaced 2 baskets in line
the work
Still illegal

line & work from USSR
is stopped up

for Dan

~~Area~~
U-323
10.5
U-575
0.5

Settle on C-503

for Dan
He says!
Frame on-line

talked to Alex
we will no longer
be getting 94A from
U-322
that Frank for something
else. We will receive
from U-323

Not

continued storming us
Clog seems to be
essential to main line

00:48	N/2	Jack Hove
-------	-----	-----------

00:45	4:35 PM	1/17	850 gm
4504	4504	4504	4504

23:21	FOX	↓	Restarted.
20:30			

2300	1586 to WWT still clog with steam,
------	---------------------------------------

Time	Location	Notes
08/23/2016	23.00 to 07.00	
TK30	12.5	
TK51	18.6	
TK61A	0.5	
TK57B	17.5	
C303	Down	
V634	11.5 ft	
V566	18.5	
V405	3.8	
TK301	18.9	
V369	12.9	
V321	7.5	
V440	7.1	
V441	2.0	

Ma Kory

30.6 34

11/10

WVTP

to

30.6 34

11/10

30.6 34

0269013 0

003611 1149

00324 31

00834 0

logged in 1586 1514 H 286

10.3 34

1.0 34

to 1575

4.8 34

8.7 34

1533

15:30

Steven V. & Henry, locked board
Have gas & vent valves closed.
Steven V. has the keys.
E+I could not fix.

Steam & cond valves in.

They will Troubleshoot
Ground Flare/Flood
140 # 16111 / WOP # 151

E+I

15:30 Maint finished. Repairs

15:10 Steam down for Repairs to cond. Return
14534

Ground Flare will not start.
Troubleshoot & Repair.
Talked to Dusty.
No one have Repair.

W.O. # 16111

from V321
80% SW240 (HEB) F0351
20% SW237
Legal

US75	5.9	US75	5.1	US75	13.2	US75	13.2
US76	2.5	US76	7.9	US76	12.2	US76	12.2
US77	9.9	US77	15.3	US77	-	US77	-
US78	2.5	US78	3.5	US78	12.3	US78	12.3
US79	4.7	US79	9.0	US79	TH310	TH310	TH310
US80	5.3	US80		US80		US80	

9/1

TR Down again to 620 High Temp
Pulled US80 sample Put in LAB

TR went down Restarted Logged in
Had lots of Problems with TOX
US80 TO US79
5.9.4 5.8.7
F 5.3 F 4.7

TR310 TO US79
5.12.8 5.2.6
F 9.0 F 9.0

V 575 S 1.4 F 8.9
V 323 S 5.9 F 2.6

T-K30 S 10.7 F 7.7
V-373 S 14.4 F 18.6

V-373 S 14.4 F 18.6
V-576 S 10.9 F 4.2

V578 13.9
V576 15.7
V572 14.4
V578 2.9
V579 10.1
V580

rus
q/c

V373 14.5
TK310 10.7
TK301 11.7
TK351 2.9
TK313 18.9
TK316 0.5
TK311 15.3
TK310 13.9
V323 5.8
V324 15.0
V325 0.944 Dow
V326 0.944 Dow
V327 0.944 Dow
V328 0.944 Dow
V329 0.944 Dow
V330 0.944 Dow

1/20/85 ON 1586 X Flying to WTP
1/10/85 1531 to 1584 1203

576 TO 1575 2nd pass Added 2014 to 1575
576 5 out
0 9 0

503 TO 1551 1st cut
5 15.2
F 15.4

576 TO 1579
5 4.8
F 9.7

503 TO 1510
5 12.8
F 13.3

Shot Down 576-49 & pulled 1586 sample put in 198.

Δ in B Dist

504 TO WTP
5 6.5
F 0

TK510-12.8
TK511-15.3
TK512-0.5
TK513-19.0
C503-0.0
C504-Loop
C505-Running

V322-1.0
V323-2.4
V324B-9.4
TK251-1.9
TK301-11.7
TK310-2.7
V318-1.9
V373-18.9
V381-12.8

V515-3.3
V516-7.6
V517-7.1
V518-8.3
V519-4.4
V520-2.8

76 27 2
42 28 3
77 29 4

11
 00059 → MS34
 00062 → MS89

— 27. 2
— 28. 2
HSSN & GREEN

0000	VS50 67K51	1.5	2.1
		1.5	2.1
		1.5	2.1
		1.5	2.1

Company cost for all Pass
" cost District 7 TR-301 \$ 11.
5-M-1 5-M-1 5-M-1 P 135

1947, 1948

Year	Area (ha)	Yield (kg/ha)	Total Yield (kg)
1950	15.4	15.4	237.16
1951	15.4	15.4	237.16
1952	0.5	18.9	9.45
1953	18.9	18.9	357.21
1954	1.5	18.9	28.35
1955	11.7	18.9	221.13
Total	63.5	18.9	1201.95

in Tues 09/04/2010

54.1 513.7
f 3.3 f 15.4

✓381-16.3	
✓373-15.0	
✓365-14.2	
TK316-12.4	504 - Fanning
TK311-4.1	503 - Bu
TK251-3.3	513-12.5
✓3240-5.9	512-0.5
✓325-1.0	511-7.1
✓322-1.0	510-10.4

Time	Location	Notes
10/31/2014	11.5	10/31/2014
12.0	11.5	10/31/2014
12.5	11.5	10/31/2014
13.0	11.5	10/31/2014
13.5	11.5	10/31/2014
14.0	11.5	10/31/2014
14.5	11.5	10/31/2014
15.0	11.5	10/31/2014
15.5	11.5	10/31/2014
16.0	11.5	10/31/2014
16.5	11.5	10/31/2014
17.0	11.5	10/31/2014
17.5	11.5	10/31/2014
18.0	11.5	10/31/2014
18.5	11.5	10/31/2014
19.0	11.5	10/31/2014
19.5	11.5	10/31/2014
20.0	11.5	10/31/2014
20.5	11.5	10/31/2014
21.0	11.5	10/31/2014
21.5	11.5	10/31/2014
22.0	11.5	10/31/2014
22.5	11.5	10/31/2014
23.0	11.5	10/31/2014
23.5	11.5	10/31/2014
24.0	11.5	10/31/2014
24.5	11.5	10/31/2014
25.0	11.5	10/31/2014
25.5	11.5	10/31/2014
26.0	11.5	10/31/2014
26.5	11.5	10/31/2014
27.0	11.5	10/31/2014
27.5	11.5	10/31/2014
28.0	11.5	10/31/2014
28.5	11.5	10/31/2014
29.0	11.5	10/31/2014
29.5	11.5	10/31/2014
30.0	11.5	10/31/2014
30.5	11.5	10/31/2014
31.0	11.5	10/31/2014
31.5	11.5	10/31/2014
32.0	11.5	10/31/2014
32.5	11.5	10/31/2014
33.0	11.5	10/31/2014
33.5	11.5	10/31/2014
34.0	11.5	10/31/2014
34.5	11.5	10/31/2014
35.0	11.5	10/31/2014
35.5	11.5	10/31/2014
36.0	11.5	10/31/2014
36.5	11.5	10/31/2014
37.0	11.5	10/31/2014
37.5	11.5	10/31/2014
38.0	11.5	10/31/2014
38.5	11.5	10/31/2014
39.0	11.5	10/31/2014
39.5	11.5	10/31/2014
40.0	11.5	10/31/2014
40.5	11.5	10/31/2014
41.0	11.5	10/31/2014
41.5	11.5	10/31/2014
42.0	11.5	10/31/2014
42.5	11.5	10/31/2014
43.0	11.5	10/31/2014
43.5	11.5	10/31/2014
44.0	11.5	10/31/2014
44.5	11.5	10/31/2014
45.0	11.5	10/31/2014
45.5	11.5	10/31/2014
46.0	11.5	10/31/2014
46.5	11.5	10/31/2014
47.0	11.5	10/31/2014
47.5	11.5	10/31/2014
48.0	11.5	10/31/2014
48.5	11.5	10/31/2014
49.0	11.5	10/31/2014
49.5	11.5	10/31/2014
50.0	11.5	10/31/2014
50.5	11.5	10/31/2014
51.0	11.5	10/31/2014
51.5	11.5	10/31/2014
52.0	11.5	10/31/2014
52.5	11.5	10/31/2014
53.0	11.5	10/31/2014
53.5	11.5	10/31/2014
54.0	11.5	10/31/2014
54.5	11.5	10/31/2014
55.0	11.5	10/31/2014
55.5	11.5	10/31/2014
56.0	11.5	10/31/2014
56.5	11.5	10/31/2014
57.0	11.5	10/31/2014
57.5	11.5	10/31/2014
58.0	11.5	10/31/2014

Description	Status	Requested By	Schedule Date	Work Type	Asset	Procedure	Work Request ID	Added	Completed	Printed	Comments	Procedure Comments
change 25 micron filter socks @TOX	Completed	rchurch	11-Jul-16	NORMAL	H-002-68	WORK-SAFETY	15431	11-Jul-16	11-Jul-16	11-Jul-16	change filter sock @ TOX	Parts W.O
change insert	Completed	rchurch	13-Jul-16	NORMAL	H-002-68	WORK-SAFETY	15458	13-Jul-16	28-Jul-16	13-Jul-16	change insert on tox	
Instrumentation, Calabration TT-600-1	Completed	wcox	26-Jul-16	CAL	H-002-68	WORK-SAFETY	15596	26-Jul-16	08-Aug-16	26-Jul-16	Instrumentation, Calabration TT-600-1	replaced thermocouple, back in service.
Instrumentation, Calabration TT-300-3	Completed	wcox	26-Jul-16	CAL	H-002-68	WORK-SAFETY	15595	26-Jul-16	08-Aug-16	26-Jul-16	Instrumentation, Calabration TT-300-3	TC was changed. The thermowell is damaged and needs to be replaced during a shutdown. Weld repair.
bad coupling	Completed	Rus	25-Aug-16	NORMAL	H-002-68	WORK-SAFETY	16026	26-Aug-16	26-Aug-16	26-Aug-16	coupling out on fan at tox	
change insert J-8	Completed	rchurch	02-Sep-16	NORMAL	H-002-68	WORK-SAFETY	16136	02-Sep-16	06-Sep-16	02-Sep-16	change insert J-8	
TOX will not start. Need to change photo eye	Completed	rchurch	12-Sep-16	NORMAL	H-002-68	WORK-SAFETY	16229	12-Sep-16	25-Oct-16	12-Sep-16	change photo eye on TOX	replaced he fire eye for tox
weld patch on ground flare stack	Completed	rchurch	05-Jul-16	NORMAL	H-001-68	WORK-SAFETY	15391	05-Jul-16	12-Jul-16	05-Jul-16	weld patch on stack on ground flare stack	
CHANGE MOD MOTOR	Completed	rchurch	01-Nov-16	NORMAL	H-001-68	WORK-SAFETY	16820	01-Nov-16	07-Nov-16	01-Nov-16	MOD MOTOR CONTROLLING FLARE TEMP NOT WORKING	changed mod motor and stack thermocouple. Back in service.
replace sock	Completed	epsilon	20-Dec-16	NORMAL	H-001-68	WORK-SAFETY	17393	22-Dec-16	22-Dec-16		Flare- Replaced sock	Replaced the filer sock
change sock	Completed	R Shoptaw	22-Dec-16	NORMAL	H-001-68	WORK-SAFETY	17409	22-Dec-16	22-Dec-16		change sock at flare east side	Replaced east side sock
Cryo , repair instrumentation air line	Completed	wcox	18-Jul-16	NORMAL	CE-01-68	WORK-SAFETY	15505	18-Jul-16	08-Aug-16	18-Jul-16	Cryo , repair instrumentation air line	repaired broken air line
Replace TI-27 with new certified RTD	Completed	wcox	15-Aug-16	CAL	CE-01-68	WORK-SAFETY	15842	15-Aug-16	30-Aug-16	15-Aug-16	Replace TI-27 with new certified RTD	pulled and replaced with new certified rtd
Replace TI-26 with new certified RTD	Completed	wcox	15-Aug-16	CAL	CE-01-68	WORK-SAFETY	15841	15-Aug-16	30-Aug-16	15-Aug-16	Replace TI-26 with new certified RTD	pulled and replaced the rtd with new certified rtd

No new operating scenarios

New Operating Scenarios

ATTACHMENT E

Subpart UU LDAR Report

ATTACHMENT F

SEMIANNUAL COMPLIANCE REPORT FOR MON LDAR PROGRAM**REPORTING PERIOD:****1 July to 31 December 2016****63.1039 Report Requirement b (1)**

b(1)(i) VALVES: Unit ID's 04, 05, 06, 07, 08, 09	
Monitoring Dates:	See Reporting Period.
No. Valves Monitored During Period:	1588
No. Valves Leaking During Period:	0
No. of Valves - Leak Not Repaired:	0
Monitored Valve Leakage Rate:	0.0%
Required Monitoring Frequency:	Annually

b(1)(ii) PUMPS: All Subpart FFFF Units							
Date Monitored:	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
No. Pumps Monitored During Period:	74	68	68	68	68	68	414
No. Pumps Leaking During Period:	0	0	0	0	0	0	0
No. Pumps Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	0%	0%	0.0%
No. of Pumps for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(iii) CONNECTORS (In accordance with 63.2480(b)(4), the facility will comply with 63.1029)

No reporting required.

b(1)(iv) AGITATORS All Subpart FFFF Units							
Date Monitored:	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
No. Agitators Monitored During Period:	24	23	23	23	23	23	139
No. Agitators Leaking During Period:	0	0	0	0	1	0	1
No. Agitators Not Monitored During Period:	0	0	0	0	0	0	0
Leakage Rate:	0%	0%	0%	0%	4%	0%	0.7%
No. of Agitators for which Leak Not Repaired:	0	0	0	0	0	0	0

b(1)(v) COMPRESSORS

No compressors in HAP service.

(b)(2) Delay of Repair.

No. of Delay of Repair Events: 1

(b)(3) Valve Subgrouping Information of 63.1025(b)(4)(I)

Not Applicable

(b)(4) PRESSURE RELIEF DEVICES GV SERVICE

Date of Test: None

Concentration [ppm]: NA

(b)(5) Initiation of monthly monitoring for valves:

Not Applicable

(b)(6) Quality improvement program for pumps

Not required due to low leak rate for pumps.

(b)(7) Alternative means of emission limitations.

Pressure test report attached.

(b)(8) No units with later compliance dates at the facility.

**ADDENDUM 1
FID MONITORING DETAIL**

ATTACHMENT F

FID MONITORING DETAILS BY AREA

Jul-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	14	0	0	0	4	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	15	0	0	0	0	0	0	0
09 & 10 - Tank Farm	18	0	0	0	0	0	0	0
Totals	74	0	0	0	24	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Aug-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	8	0	0	0	3	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	15	0	0	0	0	0	0	0
09 & 10 - Tank Farm	18	0	0	0	0	0	0	0
Totals	68	0	0	0	23	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Sep-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	8	0	0	0	3	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	15	0	0	0	0	0	0	0
09 & 10 - Tank Farm	18	0	0	0	0	0	0	0
Totals	68	0	0	0	23	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Oct-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	8	0	0	0	3	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	15	0	0	0	0	0	0	0
09 & 10 - Tank Farm	18	0	0	0	0	0	0	0
Totals	68	0	0	0	23	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Nov-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	8	0	0	0	3	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	15	0	0	0	0	0	0	0
09 & 10 - Tank Farm	18	0	0	0	0	0	0	0
Totals	68	0	0	0	23	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

Dec-16

Unit ID	Pumps				Agitators			
	Tested	New Leaks	Missed	Unsafe	Tested	New Leaks	Missed	Unsafe
04 - Alpha/Beta	8	0	0	0	3	0	0	0
05 - Gamma	13	0	0	0	6	0	0	0
06 - Delta	14	0	0	0	14	0	0	0
04 - Epsilon	15	0	0	0	0	0	0	0
09 & 10 - Tank Farm	18	0	0	0	0	0	0	0
Totals	68	0	0	0	23	0	0	0
	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	

ATTACHMENT F
ADDENDUM 2
LEAK LOG

Leak Date	Component	Equipment	First Attempt	Final Repair	Final Reading	Comments
11/17/16	- agitator	A-408/ R-406	11/23/16	01/03/17	100	initial reading 4 %

Note:

A-408/R-402 agitator was found leaking on 11/17/2016 above 10,000 ppm HAP (methylene chloride). During normal operations (85-95% op time), when the equipment is charged/processing solvent, it is under vacuum venting to the cryogenic condenser. At those times previous LDAR inspections & pressure tests did not monitor fugitive emissions > 10,000 ppm. On 11/17/16 the LDAR inspection monitored the equipment apparently not under vacuum emitting excess fugitive emissions at 3-4% methylene chloride. The timing of the LDAR inspection discovered an absent seal barrier for the agitator. Despite passing previous pressure tests and LDAR inspections the equipment was flagged vulnerable to emit excess fugitive emissions. Several temporary barrier attempts to repair occurred by 11/29/2016, and a third LDAR follow up monitored a concentration at 100 ppm. Prior to the 15 day repair deadline the facility made sure to place the equipment under constant 100% vacuum to the controlled air monitoring device (cryogenic condenser). A delay in repair was issued to permanently install an adequate seal barrier since the work would require a two week shutdown of the entire manufacturing facility. On 01/03/2017 the final repair was executed.

ATTACHMENT F**ADDENDUM 3
PRESSURE TEST REPORT**

Annual pressure testing of storage tanks and process equipment completed during this reporting period are included in the following attachment. Any storage tank that was not tested during the second half of 2016 was tested on the first half 2016 semiannual report.

Process equipment is being checked using method 21, and the components checked are included in Subpart UU report. Pressure testing is not being used as a compliance method for process equipment.

PRESSURE TEST REPORT FOR PERIOD JULY 1, 2016 TO DECEMBER 31, 2016

Eq. ID	No. Tests	No. Fails	Facts Re DoR	Date	
02TK102	1	0	main TF	8/3/16	
02TK103	1	0	main TF	8/3/16	
02TK104	1	0	main TF	8/3/16	
02TK210	26	0	main TF	weekly	
02TK251	1	0	main TF	7/11/16	
02TK252	1	0	main TF	8/3/16	
02TK254	1	0	main TF	8/3/16	
02TK256	1	0	main TF	8/3/16	
03TK301	2	1	main TF	8/3/2016	
03TK310	1	1	main TF	8/3/2016	see comment 1.
03TK361b	1	0	main TF	8/3/2016	(Method 21)
03V309	1	0	main TF	8/3/2016	
03V310	1	0	main TF	8/3/2016	
03V369	1	1	main TK farm	8/3/16	see comment 1.
03V374	1	0	main TK farm	7/11/16	(Method 21)
03V432	0	0	gamma	not test 2016	see comment 2.
04R402	1	0	gamma	7/12/16	(Method 21)
04TK410	1	0	gamma TF	8/3/16	
04TK411	26	0	main TK farm	weekly	
04TK433	1	1	main TK farm	8/3/15	see comment 1.
05R501	1	0	delta	8/16/16	(Method 21)
05R502	1	0	delta	8/16/16	
05R503	1	0	delta	8/16/16	
05TK501	1	0	delta TF	8/3/16	
05TK505	2	1	delta TF	8/3/15	
05TK507	1	0	delta TF	8/15/16	
05TK516	1	0	delta TF	8/15/16	
05TK519	1	0	main TK farm	8/3/15	
05VA534	1	0	epsilon	7/11/16	

comment: 1.)

- TK-310, V-369, TK-433 were under vacuum to the thermal oxidizer & venting during each pressure test. Method 21 was conducted on all three storage tanks to confirm no fugitive emissions while venting to TOx.

comment: 2.)

- 03V-432 was not pressure tested in 2016. The storage tank passed pressure test on 2/20/2017.

F306 Pressure Check Records for 2016 Alpha,Beta**Passing Pressure Result is no more than 1psi or 27.6 inches wc or 51.7 mmHg lost per hour.**

Date	Vessel	Fluid	Initial Pressure psi, in. wc, mmHg	Ending Pressure psi, in. wc, mmHg	Duration of Test in Minutes	Loss Rate per Hour	Pass or Fail?	Corrective Measures
	example	N2	15 psi	1 psi	60	14.0 psi	Fail	
13-Jun-16	R302B	N2	250 in.wc	228 in.wc	60	22.0 in.wc	Pass	
	R307	N2						
6/13/2016	V358	N2	10 in.wc	6 in.wc	60	4.0 in.wc	pass	
13-Jun-16	FP401	N2	10 psi	8.5 psi	60	1.5 psi	pass	
13-Jun-16	D130	N2	5 psi	4.5 psi	60	0.5 psi	pass	
13-Jun-16	R304	N2	200 mmHg	165 mmHg	60	35.0 mmHg	pass	
13-Jun-16	V375	N2	8 in.wc	6 in.wc	60	2.0 in.wc	pass	
13-Jun-16	V376	N2	8 in.wc	6 in.wc	60	2.0 in.wc	pass	
13-Jun-16	C305	N2	100 mmHg	76 mmHg	60	24.0 mmHg	pass	
		N2						
		N2						

* write "under vacuum" if necessary, then leave fields blank

* include other vessels/tks/reactors PT'd related to the process

2ND 20168/3/2016
tested

PRESSURE TEST RECORD

Tank Farms

(To Document in-part pressure tests/ checks)

Vessel	Substance in TK/Vessel	Line, Attachments, Other	Fluid	Initial Pressure	Ending Pressure	P units	Duration of Test	Rate	Pass/Fail	Corrective Measures/Venting	Date
(tag #)		(origin → destination)	(air, water, hydrogen)	(psig, "WC, or mmHg)	(psig, "WC, or mmHg)	(units (psig, "WC, or mmHg)	(min)	(psig, "WC, or mmHg)	(Pass = 100%, 51.7 mm "WC, or mmHg)	(Explain if N/A)	(if completion)
✓ 02TK102	0135M	PSV, PVCV, Recycle Line	N ₂	4 1/2	8	"WC	30 min	#DIV/0!	P	8/3/2016	
✓ 02TK103	FC175	PSV, PVCV, Recycle Line	N ₂	6 1/2	6 1/2	"WC	30 min	#DIV/0!	P		
✓ 02TK104	0246AV	PSV, PVCV, Recycle Line	N ₂	10 1/2	10 1/2	"WC	30 min	#DIV/0!	P		
02TK210	0259CM	PSV, PVCV, Recycle Line	N ₂	5	4	PSI	30 min	#DIV/0!	P		
02TK251	0089X	PSV, PVCV, Recycle Line	N ₂	N/A	N/A	"WC		#VALUE!			
✓ 02TK252	0120A	PSV, PVCV, Recycle Line	A+	6 1/2	6 1/2	"WC	30 min	#DIV/0!	P		
02TK254	F0893	PSV, PVCV, Recycle Line	N ₂	13	11	"WC	30 min	#DIV/0!	P		
02TK255	0224AN	PSV, PVCV, Recycle Line	N ₂	8	8	"WC	30 min	#DIV/0!	P		
02TK256	SL0937	PSV, PVCV, Recycle Line	N ₂	9	7	"WC	30 min	#DIV/0!	P		
✓ 03TK301	SL0050	PSV, PVCV, Recycle Line	N ₂	14	1 1/2	"WC	30 min	#DIV/0!	F	→ FLARE (CV)	
✓ 03TK305b	0625AE	PSV, PVCV, Recycle Line	A+			"WC		#DIV/0!			
✓ 03TK310	Dist B	PSV, PVCV, Recycle Line	N ₂	7	1/2	"WC	30 min	#DIV/0!	F	→ FLARE (CV)	
✓ 03TK311	0721CA	PSV, PVCV, Recycle Line	N ₂			PSI		#DIV/0!			
✓ 03TK338	SL0080	PSV, PVCV, Recycle Line	N ₂	7	7	PSI	30 min	#DIV/0!	P		
✓ 03TK361b	0120A	PSV, PVCV, Recycle Line	A+	12	14	PSI	30 min	#DIV/0!	P		
03TK370	F1101	PSV, PVCV, Recycle Line	N ₂	N/A	N/A	"WC	N/A	#DIV/0!	Not Haz	Goose Neck Joint	
03TK362	0259CM	PSV, PVCV, Recycle Line	N ₂	N/A	N/A	PSI		#VALUE!			
✓ 03V309	0135M	PSV, PVCV, Recycle Line	N ₂	9	6 1/2	"WC	30 min	#DIV/0!	P		
✓ 03V310	0136M	PSV, PVCV, Recycle Line	N ₂	5 1/2	5 1/2	"WC	30 min	#DIV/0!	Pass		
✓ 03V369	WASTE	PSV, PVCV, Recycle Line	N ₂	6 1/2	0	"WC	30 min	#DIV/0!	F	→ FLARE (CV)	
03V370	0598BT	PSV, PVCV, Recycle Line	N ₂	N/A	N/A	"WC		#VALUE!			
03V374	SL0237/0089x	PSV, PVCV, Recycle Line	N ₂			"WC		#DIV/0!			
✓ 03V381	Dist C	PSV, PVCV, Recycle Line	N ₂	7	0	"WC	30 min	#DIV/0!	F	→ FLARE (CV)	
✓ 04TK410	0120A	PSV, PVCV, Recycle Line	A+	16	16	"WC	30 min	#DIV/0!	P		
04TK411	0259CM	PSV, PVCV, Recycle Line	N ₂	1.4 psig	1.3 psig	PSI		#DIV/0!	P		

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 2016							page	of
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
MM	08/14/2016	09:20	08/14/16 09:58	09:58				
CAUSE OF FAILURE					CORRECTIVE ACTION			
					Restarted 0958			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
(R)	08/15/2016	07:30	08/15/2016	08:00				
CAUSE OF FAILURE					CORRECTIVE ACTION			
scheduled shutdown to replace T1-26 & T1-27 (due for calibration 08/15/2016)					T1-26 & T1-27 replaced			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
MM	08/25/2016	06:30	08/25/2016	06:43				
CAUSE OF FAILURE					CORRECTIVE ACTION			
High Load V-02					Reset pump Flare online			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
Re								
CAUSE OF FAILURE					CORRECTIVE ACTION			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION			
TECH	FAIL DATE	FAIL TIME	RESTART DATE	RESTART TIME	Plants Notified Polaris Down?	YES	NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION			

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

Conservation vent

TW. retested TH 505 16501

08/28/2016 - passed

Vessel	Substance in TK/Vessel	Line, Attachments, Other	Fluid	Initial Pressure	Ending Pressure	P units	Duration of Test	Rate	Pass/Fail	Corrective Measures/Venting	Date
(tag #)		(origin = destination)	(air, water, nitrogen)	(psig, TW, or mmHg)	(psig, TW, or mmHg)	units (ps, TW, or mmHg)	min	(PS, mm, WC / hr)		(Explain "N/A")	(of completion)
04TK433	0246AV	PSV, PVCV, Recycle Line	N2	2 1/2	1 1/2	"WC	30 min	#DIV/0!	F	FLARE (CV)	
05TK501	0120A	PSV, PVCV, Recycle Line	Air	7 1/2	7 1/2	"WC	30 min	#DIV/0!	F	FLARE (CV)	
05TK505	F0092	PSV, PVCV, Recycle Line	N2	4 1/2	0	"WC	30 min	#DIV/0!	F	Leak gauge (normal gauge) (CV)	
05TK507	0120A	PSV, PVCV, Recycle Line	N2	15.3	19.0"	PSI	30 min	#DIV/0!	P	FLARE	
05TK511	WASTE	PSV, PVCV, Recycle Line	N2	N/A	N/A	"WC		#VALUE!		vent to Tox	
05TK515	0120A	PSV, PVCV, Recycle Line	Air	3 1/2	3 1/2	"WC	30 min	#DIV/0!	P	TAX FLARE	
05TK519	0259CM	PSV, PVCV, Recycle Line	N2	1.3 psi	1.2	PSI	30 min	#DIV/0!	P		(CV)

TH 505 - PL needs to handle from 2015

*5' WC to 5' WC
PASS*

*305B needs new tube
410 needs new tube*

need higher regulator - held 3 1/2 - 24 HRS.

TW. retested 8/20/16

TH 310 = 5' - 0' FAIL

TH 505 = 5' - 5' PASS

TH 301 7' - 4' PASS

V369 5' - 0' FAIL

TH 133 4' - 0' FAIL

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20

page of

TECH <i>ne</i>	FAIL DATE <i>09/07/2016</i>	FAIL TIME <i>23:17</i>	RESTART DATE <i>09/07/2016</i> <i>23:20</i>	RESTART TIME <i>23:20</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>High Pressure CO2</i>					CORRECTIVE ACTION <i>Restart</i>	
TECH <i>ne</i>	FAIL DATE <i>09/07/2016</i>	FAIL TIME <i>23:35</i>	RESTART DATE <i>09/12/2016</i>	RESTART TIME <i>23:50</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>High Pressure CO2</i>					CORRECTIVE ACTION <i>Restart</i>	
TECH <i>ne</i>	FAIL DATE <i>09/08/2016</i>	FAIL TIME <i>00:50</i>	RESTART DATE <i>09/08/2016</i>	RESTART TIME <i>01:00</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>High Pressure CO2</i>					CORRECTIVE ACTION <i>Restart</i>	
TECH <i>DRC</i>	FAIL DATE <i>09/08/2016</i>	FAIL TIME <i>22:15</i>	RESTART DATE <i>09/09/2016</i>	RESTART TIME <i>01:20</i>	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>Vapor Line Full of Liquid</i>					CORRECTIVE ACTION <i>Drain all pots</i>	
TECH <i>MW</i>	FAIL DATE <i>09/09/2016</i>	FAIL TIME <i>13:26</i>	RESTART DATE <i>09/09/2016</i>	RESTART TIME	Plants Notified Polaris Down? <input type="radio"/> YES <input checked="" type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>High Temp Flame Arrestor</i>					CORRECTIVE ACTION <i>Restarted</i> <i>Flare online</i>	
TECH <i>A</i>	FAIL DATE <i>9/22</i>	FAIL TIME <i>6:30</i>	RESTART DATE	RESTART TIME	Plants Notified Polaris Down? <input checked="" type="radio"/> YES <input type="radio"/> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE					CORRECTIVE ACTION	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20 16 page of

TECH <i>Re</i>	FAIL DATE <i>09/23/2016</i>	FAIL TIME <i>1605</i>	RESTART DATE <i>09/25/2016</i>	RESTART TIME <i>1510</i>	Plants Notified Polaris Down?	YES <input type="radio"/> NO <input checked="" type="radio"/>	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND <i>NO ONE IN PLANTS</i>
CAUSE OF FAILURE <i>High Pressure CO1</i>					CORRECTIVE ACTION <i>Restart @ Completion.</i>		
TECH <i>Re</i>	FAIL DATE <i>09/25/2016</i>	FAIL TIME <i>1525</i>	RESTART DATE <i>09/25/2016</i>	RESTART TIME <i>1530</i>	Plants Notified Polaris Down?	YES <input type="radio"/> NO <input checked="" type="radio"/>	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND <i>NO ONE IN PLANT</i>
CAUSE OF FAILURE <i>High AP CO1</i>					CORRECTIVE ACTION <i>Restart</i>		
TECH <i>Re</i>	FAIL DATE <i>11/04/2016</i>	FAIL TIME <i>0410</i>	RESTART DATE <i>11/04/2016</i>	RESTART TIME <i>0415</i>	Plants Notified Polaris Down?	YES <input checked="" type="radio"/> NO <input type="radio"/>	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>HIGH AP CO2</i>					CORRECTIVE ACTION <i>Restart</i>		
TECH <i>Re</i>	FAIL DATE <i>11/04/2016</i>	FAIL TIME <i>0445</i>	RESTART DATE <i>11/04/2016</i>	RESTART TIME <i>0500</i>	Plants Notified Polaris Down?	YES <input checked="" type="radio"/> NO <input type="radio"/>	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>HIGH AP CO2</i>					CORRECTIVE ACTION <i>Restart.</i>		
TECH <i>Re</i>	FAIL DATE <i>11/04/2016</i>	FAIL TIME <i>0535</i>	RESTART DATE <i>11/04/2016</i>	RESTART TIME <i>0545</i>	Plants Notified Polaris Down?	YES <input checked="" type="radio"/> NO <input type="radio"/>	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>HIGH AP CO2</i>					CORRECTIVE ACTION <i>Restart</i>		
TECH <i>ARC</i>	FAIL DATE <i>11/06/2016</i>	FAIL TIME <i>0045</i>	RESTART DATE <i>11/06/2016</i>	RESTART TIME <i>0055</i>	Plants Notified Polaris Down?	YES <input checked="" type="radio"/> NO <input type="radio"/>	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <i>High AP CO2</i>					CORRECTIVE ACTION <i>Restarted</i>		

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

POLARIS CRYOGENIC CONDENSER FAILURE LOG SHEET for 20 16 page of

TECH <u>DRC</u>	FAIL DATE <u>11/21/2016</u>	FAIL TIME <u>0120</u>	RESTART DATE <u>11/21/2016</u>	RESTART TIME <u>0125</u>	Plants Notified Polaris Down? <u>YES</u> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <u>High ΔP CO2</u>					CORRECTIVE ACTION	
TECH <u>DRC</u>	FAIL DATE <u>11/24/2016</u>	FAIL TIME <u>0310</u>	RESTART DATE <u>11/24/2016</u>	RESTART TIME <u>0325</u>	Plants Notified Polaris Down? <u>YES</u> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <u>PO2 pump tripped out</u>					CORRECTIVE ACTION <u>Reset for Breaker Drain Tank in manual Restarted unit</u>	
TECH <u>DL</u>	FAIL DATE <u>11/30/2016</u>	FAIL TIME <u>0415</u>	RESTART DATE <u>11/30/2016</u>	RESTART TIME <u>0425</u>	Plants Notified Polaris Down? <u>YES</u> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <u>XV-04B STUCK</u>					CORRECTIVE ACTION <u>Restart</u>	
TECH <u>DL</u>	FAIL DATE <u>12/13/2016</u>	FAIL TIME <u>01:30</u>	RESTART DATE <u>12/13/2016</u>	RESTART TIME <u>02:58</u>	Plants Notified Polaris Down? <u>YES</u> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <u>PO2 Pump tripped off</u>					CORRECTIVE ACTION <u>Reset pump, Pumped level down in manual, Restarted.</u>	
TECH <u>DL</u>	FAIL DATE <u>12/13/2016</u>	FAIL TIME <u>07:23</u>	RESTART DATE <u>12/13/2016</u> <u>12/13/2016</u>	RESTART TIME <u>0400</u> <u>0400</u>	Plants Notified Polaris Down? <u>YES</u> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <u>Blower tripped / Inverter</u>					CORRECTIVE ACTION <u>Richard Church Restarted</u>	
TECH <u>DRC</u>	FAIL DATE <u>12/21/2016</u>	FAIL TIME <u>0140</u>	RESTART DATE <u>12/21/2016</u>	RESTART TIME <u>0310</u>	Plants Notified Polaris Down? <u>YES</u> NO	NOTE HERE IF OPERATIONAL PLANT DOES NOT RESPOND
CAUSE OF FAILURE <u>XV-04B MALFUNCTION</u>					CORRECTIVE ACTION <u>Switched Air Lines on valves Restarted unit</u>	

Must respond to alarms within 15 minutes. If temperature exceeds -120 F in the effluent for 4 or more hours, plants must be notified to stop venting if safe to do so and to follow malfunction plan on batch sheet. Must document Polaris malfunction dates, times, causes, and corrective actions. Plant notification to Alpha Beta; Gamma; Delta 2; Tank Farm.

ATTACHMENT #5 REQUEST FORM

FOIA EXEMPT
Appendix E

RF#: _____ DO NOT RELEASE

SECTION I – TO BE COMPLETED BY THE DEPARTMENT MANAGER:

CHANGE REQUEST FORM ☐

CORRECTIVE/PREVENTIVE ACTION (CAPA) REQUEST FORM ☐

Department Manager Name	Date of Request	Estimated Completion Date	MOC Process		
A. Lloyd for A. LaRocca	10/12/2016	12/05/2016	Normal <input checked="" type="checkbox"/>	Temporary <input type="checkbox"/>	Emergency <input type="checkbox"/>

Associated Process Name and Location:

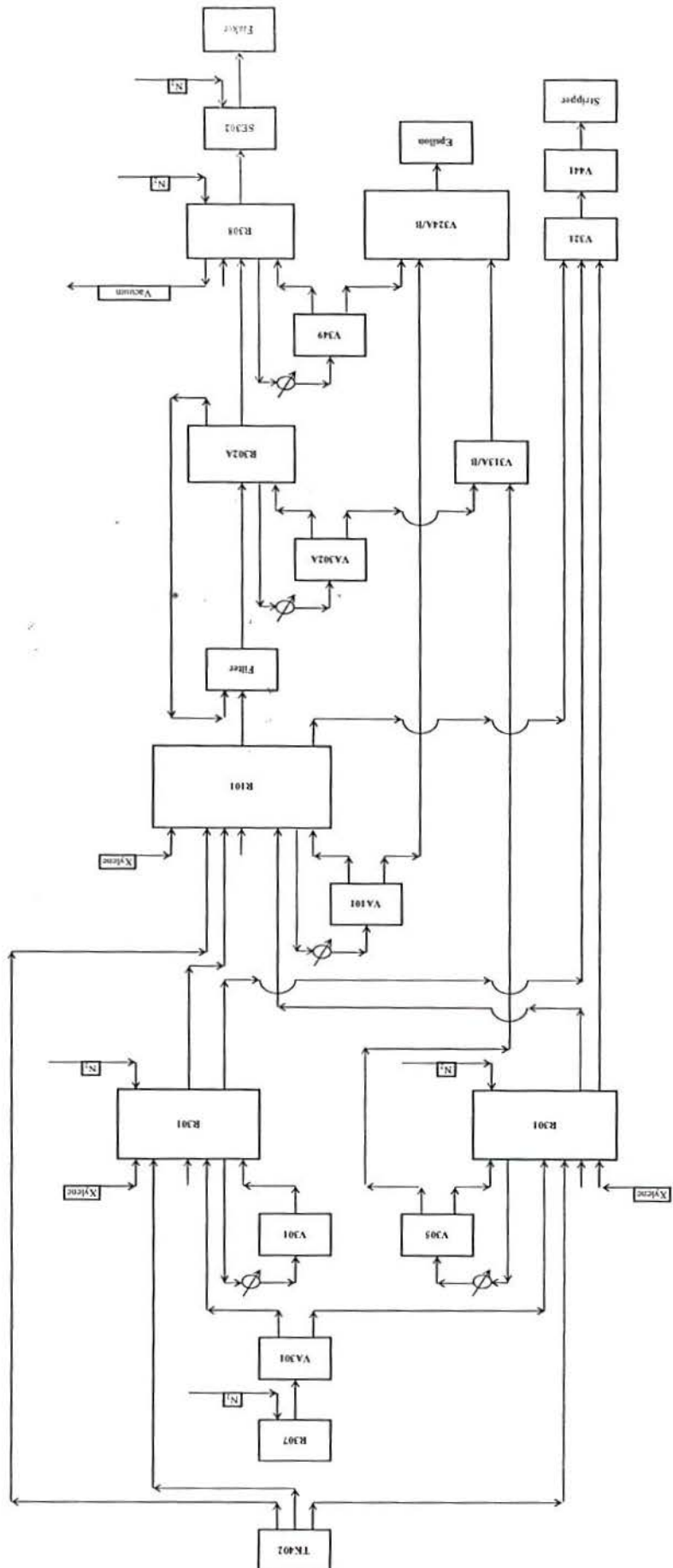
Type of Change/CAPA: Site ☐; Equipment ☐; Piping ☐; Process ☐; Raw Material ☐; Intermediate ☐; Other ☐; If other, specify:

MOC Process	CAPA Process
Description of Proposed Change(s)	Description of Nonconformance(s)
A new process line will be run with jacketed pipe from the bottom of R-308 to SE-302. This line will include 3 jacketed valves. New oil piping will be run from the hot oil header in the highline to SE-302 and one coil on SE-302 will be converted to hot oil. The valves, process pipe, hot oil pipe, and SE-302 will be insulated. A line will be run from R-101 through a filter and into R-302A with a recycle line also through the filter. A line will be installed running from R-302A to R-308.	HA-88 optimize 11/2016
Objective and Technical Basis of Proposed Change	Investigation and root cause(s) of Nonconformance(s)
These changes will add vessels to the HA88 train configuration and increase our capacity (reduce cycle time, increase throughput).	

Who will implement the change/CAPA? Production ☒; Maintenance ☒; E & I ☐; General Services ☐; Safety ☐; Environmental ☐; Technology ☐; Engineering ☒; Other ☐; If other, specify:

How will costs be covered? Capital Project ☒; Other ☐; If other, specify:

Account # (if applicable):



Attachments: MOC AB HA88 Cycle Optimization.doc; HA88 Train for 12052016.pdf

Vince,

I'm sending this to you first before I even submit to QA so you can start looking into any permit requirements on your end for this updated train configuration for HA88. We aren't running this Xylene based process in any new equipment that already hasn't had Xylene processes in it before. In summary, here are some more information:

1. We will now be utilizing SE302 for this process as a hot oil, molten feed vessel to the flaker. There will be no operations (reactions, distillations, etc.) performed in this vessel SE302 as this will merely be a holding vessel for the molten product to feed the flaker (83X content is less than 250ppm at this point). This vessel on HEB campaign is used for the intermediate SL0234.
2. There will be no change to HA88 stoichiometry.
3. There will be no change to HA88 methodology.

If you need anything else, please let me know and I will get you what you need. You should have all of the original HA88 manufacturing quantities from the originating MOC when we started this process earlier this year and nothing has changed to those quantities.

Anthony LaRocca
 Vice President of Operations

Vince Centioni
Environmental manager



888 Woodstock St.
 Georgetown, SC 29440
 Office: 843-520-5128
 Mobile: 843-240-0577
 Email: v.centioni@3VSigmaUSA.com

Vince Centioni

From: Anthony Larocca
Sent: Friday, January 20, 2017 4:06 PM
To: Vince Centioni
Cc: Steven Varone
Subject: RE: HA88 Opt train change 12/2016

No, that jacketed line contains the molten final product where 83X content is less than 100ppm. There is no free xylene that could or would exist in this jacketed line.

From: Vince Centioni
Sent: Friday, January 20, 2017 3:50 PM
To: Anthony Larocca
Cc: Steven Varone
Subject: HA88 Opt train change 12/2016

Would this line be considered – 083X under LDAR. Just trying to get my monitoring train straight.

'Thanks Vince



File

Home

Insert

Page Layout

References

Mailings

Review

View

Design

Layout

Font

Paste

Clipboard

Font

Paragraph

CHANGE REQUEST FORM ☐

CORRECTIVE

Department Manager Name	Date of Request	Estimated Completion
A. Lloyd for A. LaRocca	10/12/2016	12/05/2016

Associated Process Name and Location.

Type of Change/CAPA: Site ☐ Equipment ☐ Piping ☐ Process ☐ Raw Material ☐

MOC Process	
Description of Proposed Change(s)	Description
A new process line will be run with jacketed pipe from the bottom of R-308 to SE-302. This line will include 3 jacketed valves. New oil piping will be run from the hot oil header in the highline to SE-302 and one coil on SE-302 will be converted to hot oil. The valves, process pipe, hot oil pipe, and SE-302 will be insulated. A line will be run from R-101 through a filter and into R-302A with a recycle line also through the filter. A line will be installed running from R-302A to R-308.	
Objective and Technical Basis of Proposed Change	Investigati
These changes will add vessels to the HA88 train configuration and increase our capacity (reduce cycle time, increase throughput).	

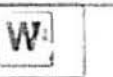
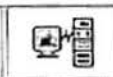
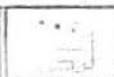
Who will implement the change/CAPA? Production ☒ Maintenance ☒ E & I ☐ Engineering ☒ Other ☐ If other, specify.How will costs be covered? Capital Project ☒ Other ☐ If other, specify.

Account # (if applicable)

COS1010 REV. 2

CONFIDENTIAL

Page: 1 of 5 Words: 1,097

Vince Centioni
Environmental Manager



Description	P-506b/V513 seal, visual leak - LDAR		
Reference	Steve Varone, Delta 2		
Emergency	<input type="checkbox"/>		
Schedule Date	12/9/2016		
Building	Delta 2	Floor	Ground Room
Asset	P-506B-5A	Procedure	WORK-SAFETY
Your Name	WT	Phone	Ext 127

P-506b
VISUAL
LEAK

Vince Centioni

From: Vince Centioni
Sent: Friday, December 09, 2016 2:51 PM
To: Randy Long; Thad Hayes; Ty Mercer
Cc: Anthony Larocca; Scott McNair; Dusty Miller; Steven Varone
Subject: RE: p506a - V513 LDAR

Importance: High

Tracking:	Recipient	Delivery	Read
	Randy Long	Delivered: 12/9/2016 2:51 PM	
	Thad Hayes	Delivered: 12/9/2016 2:51 PM	
	Ty Mercer	Delivered: 12/9/2016 2:51 PM	
	Anthony Larocca	Delivered: 12/9/2016 2:51 PM	
	Scott McNair	Delivered: 12/9/2016 2:51 PM	
	Dusty Miller	Delivered: 12/9/2016 2:51 PM	
	Steven Varone	Delivered: 12/9/2016 2:51 PM	Read: 12/9/2016 2:52 PM

Steve V. inspected this again today as he was doing LDAR valves, noticed it is getting worse. Leaking into floor drain – 259CM. Please fix.

‘thanks Vince

Vince Centioni
Environmental Manager



888 Woodstock St.
Georgetown, SC 29440
Office: 843-520-5128
Mobile: 843-240-0577
Email: v.centioni@3VSigmaUSA.com

From: Vince Centioni
Sent: Wednesday, December 07, 2016 2:36 PM
To: Randy Long; Thad Hayes; Ty Mercer
Cc: Anthony Larocca; Scott McNair; Dusty Miller; Steven Varone
Subject: p506a - V513 LDAR
Importance: High

Monitored 2,000 ppm at the seal, he also noticed a visual leak, with residual material. Please get this addressed. The LDAR limit is 10,000 ppm, but it will only get worse. Visual material needs to be cleaned off as well.

'thanks Vince

Vince Centioni
Environmental Manager



888 Woodstock St.
Georgetown, SC 29440
Office: 843-520-5128
Mobile: 843-240-0577
Email: v.centioni@3VSigmaUSA.com

Vince Centioni

From: Steven Varone
Sent: Thursday, December 15, 2016 3:30 PM
To: Vince Centioni
Subject: A408 Gamma and Valve #54045 Epsilon

Vince,

I checked the Gamma A408 Agitator today. I received a reading between 90-100 PPM Methylene Chloride (0259CM RF). The agitator was running.

I also noticed a slight leak on Valve # 54045 next to P 572 in the Epsilon Plant. The leak is approximately at 10 ppm which is well within the specs but may need to be tightened or monitored in the future.

Thanks.

Steven Varone
EHS Specialist



888 Woodstock St.
Georgetown, SC 29440
Office: 843-546-8556
Fax: 843-520-0201
Email: s.varone@3VSigmaUSA.com

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which they are addressed. If you have received this email in error please notify the system manager. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the Company. Finally, the recipient should check this email and any attachments for the presence of viruses. The Company accepts no liability for any damage caused by any virus transmitted by this email.

A-408/R-40:
DO NOT RELEASE**Vince Centioni**

From: Vince Centioni
Sent: Monday, November 28, 2016 1:35 PM
To: Joe Bosse
Subject: RE: A408 Agitator FID Readings 11/28/2016

DELAY
REPAIR

Ok. At least we made an 'initial repair attempt' w/ in 5 days. Just keep me posted and as soon as we are able to fix have Steve V. or myself retest.

'Thanks Vince

From: Joe Bosse
Sent: Monday, November 28, 2016 1:31 PM
To: Vince Centioni
Subject: RE: A408 Agitator FID Readings 11/28/2016

The agitator seal fluid lines plugs was the "initial attempt at repair" in response to the readings found by Steve, not the cause. The seal pot itself has been out of service for years going back before I came to Gamma. We do not have a seal to replace the one on R402 on-site and currently Engineering is trying to find one.

Joe Bosse
Gamma Plant Unit Manager



888 Woodstock St.
Georgetown, SC 29440
Office: 843-520-0235
Fax: 843-520-0201
Email: j.bosse@3VSigmaUSA.com

From: Vince Centioni
Sent: Monday, November 28, 2016 1:28 PM
To: Joe Bosse; Steven Varone; Walt Fulton; Anthony Larocca
Cc: Scott McNair; Ryan Dorsey; Dusty Miller; Robert Stamper; Randy Cleland
Subject: RE: A408 Agitator FID Readings 11/28/2016
Importance: High

I doubt EPA/SC DHEC will easily accept that 'seal fluid lines' were simply 'plugged off' thus causing HAP vapors to escape from the damaged faces of the mechanical seal. Is it not a 'common' practice to remove the mechanical seal, replace the 'grooved' seal faces and reassemble? Is it also not a 'common' practice to replace the all mechanical seal with a more conventional 'packing seal' in order to mitigate vapors emissions? OSHA will also be very much involved if vapors accumulated in the nearby working environment would show exposure levels above permissible limits. (8 hrs working shift PEV)

'Vince

From: Joe Bosse**Sent:** Monday, November 28, 2016 12:33 PM**To:** Vince Centioni; Steven Varone; Walt Fulton; Anthony Larocca**Cc:** Scott McNair; Ryan Dorsey; Dusty Miller; Robert Stamper; Randy Cleland**Subject:** RE: A408 Agitator FID Readings 11/28/2016

In order to repair this agitator seal R402 will need to be baked and cleaned out, which takes a week. This is due to high concentrations of 0259CM present in the reactor when empty due to residual polymer on all reactor surfaces that can only be removed by being "baked and cleaned out". The repair itself will require the removal of the entire top half of the agitator leaving the reactor itself open to the environment for multiple days. Once R402 is clean, the repair itself will take multiple days to complete due to extensive labor involved. Others included in this email can confirm, but the length of the shutdown currently is not long enough to complete all of the work required to replace this seal due to the extensive preparations required.

Joe Bosse*Gamma Plant Unit Manager*

888 Woodstock St.

Georgetown, SC 29440

Office: 843-520-0235

Fax: 843-520-0201

Email: j.bosse@3VSigmaUSA.com**From:** Vince Centioni**Sent:** Monday, November 28, 2016 12:23 PM**To:** Joe Bosse; Steven Varone; Walt Fulton**Cc:** Scott McNair; Ryan Dorsey; Dusty Miller; Robert Stamper; Randy Cleland**Subject:** RE: A408 Agitator FID Readings 11/28/2016

Are we not having a winter facility shutdown from Jan 3rd – Jan 8th / 10th
..?

Need to include this job for that timeframe. How can I explain this 'delay of repair' that will exceed 15 days when we decided to hold off fixing until Feb-March 2017..?

Regulators may issue NOVs, just saying.

'Vince

From: Joe Bosse**Sent:** Monday, November 28, 2016 12:12 PM**To:** Vince Centioni; Steven Varone; Walt Fulton**Cc:** Scott McNair; Ryan Dorsey; Dusty Miller; Robert Stamper; Randy Cleland**Subject:** RE: A408 Agitator FID Readings 11/28/2016

All,

Excerpt from another email conversation regarding this seal leak:

"The repair made was a first attempt and is only a temporary repair, the seal still needs to be replaced. Dusty and Bobby had discussed the leak the week prior to temporary repair. When the seal pot was disconnected from the R402 agitator the seal fluid lines to the seal had been completely removed and the ports had been left open. Last week Bobby used a plug to block the ports that the seal pot fluid lines had been connected to. This port exhausted 0259CM vapors and was a major contributor to the high concentrations of 0259CM vapors detected. This seal still needs to be replaced though and the seal pot reconnected. The line is tentatively scheduled to go down in February-March 2017 unless planning decides to take it down earlier."

Initial repair was made on 11/23/2016.

Joe Bosse
Gamma Plant Unit Manager



888 Woodstock St.
Georgetown, SC 29440
Office: 843-520-0235
Fax: 843-520-0201
Email: j.bosse@3VSigmaUSA.com

From: Vince Centioni
Sent: Monday, November 28, 2016 11:53 AM
To: Steven Varone; Joe Bosse; Walt Fulton
Cc: Scott McNair; Ryan Dorsey; Dusty Miller; Robert Stamper; Randy Cleland
Subject: RE: A408 Agitator FID Readings 11/28/2016

What 'initial repair' was made..?

When was it made..?

'thanks Vince

From: Steven Varone
Sent: Monday, November 28, 2016 11:37 AM
To: Vince Centioni; Joe Bosse; Walt Fulton
Cc: Scott McNair; Ryan Dorsey; Dusty Miller; Robert Stamper; Randy Cleland
Subject: A408 Agitator FID Readings 11/28/2016

Vince,

I took a reading of A408 after the initial repair attempt. The reading obtained was **31,167 PPM** of 0259CM. This was the average reading with the use of a 1:25 dilution probe. An additional repair is needed.

Steven Varone
EHS Specialist

Vince Centioni

From: Vince Centioni
Sent: Thursday, September 15, 2016 12:36 PM
To: Alex Llyod
Cc: Timmy Wall; Scott McNair; Steven Varone; Rusty Swails
Subject: Current storage tank list for Zook
Attachments: 09.15.2016.xlsx

See Reed's list for current inventory. Use my table, some of the tanks are not in use/empty/haz.material is gone:
 ex:

- V-370 (moving to WWTP) benzotrichloride-0589BT gone
- TK-311 0721CA allyl chloride 86'd
- entire anhydrous ammonia TK pulled and 86'd

Most hazardous material we have on-site is: (extremely hazardous classification)

- 224AN-acrylonitrile stored in TK-255
- SO3-sulfur trioxide stored in TK-337

After those focus on pure HAP tanks (hazardous air pollutants):

- MeOH, 0083X, 259CM, 621AC, 625AE, 120A, Dist A-TK254; Dist B-TK301,TK310,TK-513; Dist C-V381
- haz waste tanks - V381,tk511,v369
- haz process wastewater tanks - TK-510,v584,v441
- haz.polyvic tanks - F0422/F0092 - TK-514, TK-515

Remember the tanks in the plant dikes:

- A/B- V358,V324a,V324b,V322, etc
- Gamma-TK410,V432
- Delta-TK501,505,507,516

Vessel	Substance in TK/Vessel
(tag #)	
02TK102	0135M
02TK103	F0175
02TK104	0246AV
02TK210	0259CM
02TK251	0083X
02TK252	0120A
02TK254	F0893
02TK255	0224AN
02TK256	SL0937

ENFORCEMENT CONFIDENTIAL

03TK301	MeOH:MeAce
03TK305b	0625AE
03TK310	Dist B
03TK311	0721CA
03TK338	SL0080
03TK361b	0120A
03TK370	F1101
03TK382	259CM
03V309	0135M
03V310	0135M
03V369	Haz Waste
03V370	0598BT
03V374	SL0237/0083x
03V381	Dist C
04TK410	0120A
04TK411	0259CM
04TK433	0246AV
05TK501	0120A
05TK505	F0092
05TK507	0120A
05TK516	0120A
05TK519	0259CM
05TK511	Haz Waste

V432 Gamma 259CM in dike outside

FYI,

Last priority should be non-haz product tanks storing water based Polyvic (F309) & water based optical brightner - F888,886,881,257 (reference Reeds list) and non-haz. process wastewater tanks:

- V557,V539,V321,V360,V440,v421,v586,etc

Also, Timmy Wall had some tanks that failed pressure tests perhaps should be inspected but they are on my table above. I think the issue w/ them are the conservation vents..?

From: Reed Barker

Sent: Thursday, September 15, 2016 11:59 AM

To: Vince Centioni; Stacey Altman
Subject: RE: Current storage tank list

From: Vince Centioni
Sent: Thursday, September 15, 2016 11:53 AM
To: Reed Barker; Stacey Altman
Subject: Current storage tank list

Reed,

Do you have a current sheet w/ the material in each storage tank...??

'thanks Vince

Vince Centioni
Environmental Manager



888 Woodstock St.
Georgetown, SC 29440
Office: 843-520-5128
Mobile: 843-240-0577
Email: v.centioni@3VSigmaUSA.com

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which they are addressed. If you have received this email in error please notify the system manager. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the Company. Finally, the recipient should check this email and any attachments for the presence of viruses. The Company accepts no liability for any damage caused by any virus transmitted by this email.

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which they are addressed. If you have received this email in error please notify the system manager. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the Company. Finally, the recipient should check this email and any attachments for the presence of viruses. The Company accepts no liability for any damage caused by any virus transmitted by this email.

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which they are addressed. If you have received this email in error please notify the system manager. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the Company. Finally, the recipient should check this email and any attachments